U.S. Department of the Interior BUREAU OF LAND MANAGEMENT

Sundry Print Report

Well Name: REGAL LAGER 31-19

FEDERAL COM

Well Location: T22S / R32E / SEC 6 /

LOT 1 / 32.4257381 / -103.7081779

NIM

County or Parish/State: LEA /

NM

Well Number: 23H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM42814

Unit or CA Name:

Unit or CA Number:

US Well Number: 3002554341

Operator: OXY USA INCORPORATED

Notice of Intent

Sundry ID: 2861102

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 07/01/2025

Time Sundry Submitted: 01:43

Date proposed operation will begin: 08/15/2025

Procedure Description: OXY USA Inc., respectfully requests to amend the subject AAPD to revise the BHL, HSU, TVD and Drill Plan. Old BHL: 20' FNL 1735' FWL New BHL: 20' FNL 2310' FEL Old HSU: 480 acres New HSU: 960 acres Old TVD: 10357' New TVD: 10492' *THERE IS NO ADDITIONAL SURFACE DISTURBANCE RELATED TO THIS SUNDRY" Attached is the updated C102, drill plan, directional and APD Change Worksheet.

*Per 19.15.14.9 NMAC, OXY USA Inc. certifies no addition of PFAS chemicals to fluids used in the completion of recompletion of the subject well.

NOI Attachments

Procedure Description

RegalLager31_19FedCom21H_API_BTC_SC_10.750_40.5ppf_J55_20250701134253.pdf

RegalLager31_19FedCom21H_13inADAPT_4S_10x15_20250701134239.pdf

RegalLager31_19FedCom23H_DrillPlan_4S_20250701134226.pdf

 $RegalLager 31_19 Fed Com 23 H_VAM_SPRINT_TC_SC_5.5 in_20 ppf_P110 EC_20250701134210. pdf$

 $RegalLager 31_19 Fed Com 23 H_VAM_DWC_C_HT_IS_5.500 in_20 ppf_P110 RY_20250701134200.pdf$

RegalLager31_19FedCom23H_13inADAPT_13.375in_9.625in_10x10_20250701134150.pdf

RegalLager31_19FedCom23H_BOPBreakTestingVariance2025_20250701134139.pdf

RegalLager31_19FedCom23H_DirectPlan_20250701134129.pdf

RegalLager31 19FedCom23H DrillPlan 20250701134118.pdf

Received by OCD: WINARAS: REGALLACER 31-19

Well Location: T22S / R32E / SEC 6 / LOT 1 / 32.4257381 / -103.7081779

County or Parish/State: LEA /

Page 2 of 49

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Well Number: 23H

FEDERAL COM

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM42814

MNM42814 Unit or CA Name:

Unit or CA Number:

US Well Number: 3002554341

Operator: OXY USA INCORPORATED

RegalLager31_19FedCom23H_C102_20250701134107.pdf

RegalLager31_19FedCom23H_APDCHGSUNDRYWORKSHEET_20250701134056.pdf

Conditions of Approval

Additional

REGAL_LAGER_31_19_FEDERAL_COM_23H___SUNDRY_COA__7_15_2025_20250721131557.pdf

Operator

I certify that the foregoing is true and correct. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: MELISSA GUIDRY Signed on: JUL 01, 2025 01:43 PM

Name: OXY USA INCORPORATED

Title: Advisor Regulatory Sr.

Street Address: 5 GREENWAY PLAZA SUITE 110

City: HOUSTON State: TX

Phone: (713) 497-2481

Email address: MELISSA_GUIDRY@OXY.COM

Field

Representative Name:

Street Address:

City: State: Zip:

Phone:

Email address:

BLM Point of Contact

BLM POC Name: KEITH P IMMATTY BLM POC Title: ENGINEER

BLM POC Phone: 5759884722 BLM POC Email Address: KIMMATTY@BLM.GOV

Disposition: Approved **Disposition Date:** 07/22/2025

Signature: KEITH IMMATTY

Page 2 of 2

Form 3160-5 (June 2019)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: October 31, 202

(June 2017)	DEF	PARTMENT OF THE I	NTERIOR		EX	pires: October 31, 2021	
	BUR	EAU OF LAND MAN	AGEMENT		5. Lease Serial No.	NMNM42814	
		NOTICES AND REPO			6. If Indian, Allottee or Tribe	Name	
		form for proposals t Use Form 3160-3 (A					
	SUBMIT IN	TRIPLICATE - Other instru	uctions on page .	2	7. If Unit of CA/Agreement, 1	Name and/or No.	
1. Type of Well Oil Well	Gas V	Vell Other		8. Well Name and No. REGAL LAGER 31-19 FEDERAL COM/23H			
2. Name of Operator OXY	′ USA INCC	DRPORATED			9. API Well No. 300255434	1	
3a. Address P.O. BOX 1			3b. Phone No. (in	clude area code)	10. Field and Pool or Explora		
			(661) 763-6046		BILBERY BASIN/BONE SPRING		
4. Location of Well (Foota SEC 6/T22S/R32E/NN	_	R.,M., or Survey Description)			11. Country or Parish, State LEA/NM		
	12. CHE	CK THE APPROPRIATE B	OX(ES) TO INDI	CATE NATURE (OF NOTICE, REPORT OR OT	HER DATA	
TYPE OF SUBMIS	SION			TYPE	E OF ACTION		
✓ Notice of Intent		Acidize	Deepen	[Production (Start/Resume)	Water Shut-Off	
_		Alter Casing	Hydrau	lic Fracturing	Reclamation	Well Integrity	
Subsequent Report		Casing Repair	=	onstruction	Recomplete	Other	
Einel Alemdennes	NT-41	Change Plans	= -	d Abandon [Temporarily Abandon		
Final Abandonmen		Convert to Injection	Plug Ba		Water Disposal	ork and approximate duration thereof. If	
completed. Final Abar is ready for final inspe	donment No ction.) spectfully red 1735' FWL 2310' FEL		all requirements,	including reclama	tion, have been completed and	3160-4 must be filed once testing has been the operator has detennined that the site	
New HSU: 960 acı	es						
Old TVD: 10357' New TVD: 10492'						OXY USA Inc. certifies no addition	
		SURFACE DISTURBANC	E RELATED TO	THIS SUNDRY	of PFAS chemicals to flu recompletion of the subj	uids used in the completion of ect well.	
Continued on page			(
MELISSA GUIDRY / PI		true and correct. Name (Pri -2481	Advisor Reg	gulatory Sr.			
(Electroni Signature	c Submissic	on)	07/01/2025				
		THE SPACE	FOR FEDE	RAL OR STA	TE OFICE USE		
Approved by							
KEITH P IMMATTY / F	h: (575) 988	8-4722 / Approved		ENGIN Title	NEER	07/22/2025 Date	
	olds legal or e	hed. Approval of this notice of equitable title to those rights aduct operations thereon.			LSBAD		
Fitle 18 U.S.C Section 100	1 and Title 4	3 U.S.C Section 1212, make	it a crime for any	nerson knowingly	and willfully to make to any d	enartment or agency of the United States	

Title 18 U.S.C Section 1001 and Title 43 U.S.C Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United State any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area or regional procedures and practices, are either shown below, will be issued by or may be obtained from the local Federal office.

SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. If the proposal will involve **hydraulic fracturing operations**, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c)and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

(Form 3160-5, page 2)

Additional Information

Additional Remarks

Attached is the updated C102, drill plan, directional and APD Change Worksheet.

Location of Well

0. SHL: LOT 1 / 764 FNL / 857 FEL / TWSP: 22S / RANGE: 32E / SECTION: 6 / LAT: 32.4257381 / LONG: -103.7081779 (TVD: 0 feet, MD: 0 feet)

PPP: SWNE / 2636 FSL / 1736 FEL / TWSP: 21S / RANGE: 32E / SECTION: 19 / LAT: 32.4641253 / LONG: -103.7110569 (TVD: 10357 feet, MD: 23896 feet)

PPP: NWNE / 1323 FNL / 1736 FEL / TWSP: 21S / RANGE: 32E / SECTION: 30 / LAT: 32.4532417 / LONG: -103.7110489 (TVD: 10357 feet, MD: 19919 feet)

PPP: SWSE / 100 FSL / 1735 FEL / TWSP: 21S / RANGE: 32E / SECTION: 31 / LAT: 32.4281021 / LONG: -103.7110305 (TVD: 10357 feet, MD: 10771 feet)

PPP: SWSE / 0 FNL / 1737 FEL / TWSP: 21S / RANGE: 32E / SECTION: 30 / LAT: 32.4423469 / LONG: -103.7110409 (TVD: 10357 feet, MD: 15954 feet)

BHL: NWNE / 20 FNL / 1735 FEL / TWSP: 21S / RANGE: 32E / SECTION: 19 / LAT: 32.4713306 / LONG: -103.7110622 (TVD: 10302 feet, MD: 26499 feet)

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME: OXY USA INCORPORATED
WELL NAME & NO.: REGAL LAGER 31 19 FED COM 23H
LOCATION: Section 6, T.22 S., R.32 E.
COUNTY: Lea County, New Mexico

COA

H2S	• Yes	O No	
Potash	O None	Secretary	O R-111-P
Cave/Karst Potential	• Low	O Medium	O High
Cave/Karst Potential	O Critical		
Variance	O None	• Flex Hose	Other Other
Wellhead	Conventional	Multibowl	O Both
Wellhead Variance	O Diverter		
Other	□4 String	☐ Capitan Reef	□WIPP
Other	☐ Fluid Filled	☐ Pilot Hole	☐ Open Annulus
Cementing	☐ Contingency	☐ EchoMeter	☑ Primary Cement
	Cement Squeeze		Squeeze
Special Requirements	☐ Water Disposal	☑ COM	□ Unit
Special Requirements	☐ Batch Sundry		
Special Requirements	☑ Break Testing	✓ Offline	☐ Casing
Variance		Cementing	Clearance

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated AT SPUD. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

NOTE: WELL APPROVED FOR DESIGNS A1 AND A2. REVIEW CEMENT VOLUMES TO ACHIEVE TIE BACKS LISTED BELOW.

<u>A1:</u>

1. The **10-3/4** inch surface casing shall be set at approximately **868** feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.

- a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
- b. Wait on cement (WOC) time for a primary cement job will be a minimum of **24 hours in the Potash Area** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
- d. If cement falls back, remedial cementing will be done prior to drilling out that string.
- 2. The 7-5/8 inch intermediate casing shall be set at approximately 9807 feet. KEEP CASING 1/2 FULL FOR COLLAPSE SF. PRESSURE TEST NEEDS EXTERNAL PRESSURE REVIEW AS WELL. The minimum required fill of cement behind the 7-5/8 inch intermediate casing is:

Option 1 (Single Stage):

• Cement to surface. If cement does not circulate see B.1.a, c-d above.

Operator has proposed to cement in two stages by conventionally cementing the first stage and performing a bradenhead squeeze on the second stage, contingent upon no returns to surface.

- a. First stage: Operator will cement with intent to reach the top of the **Brushy** Canyon
- b. Second stage:
 - Operator will perform bradenhead squeeze and top-out. Cement to surface. If cement does not reach surface, the appropriate BLM office shall be notified
- ❖ In <u>Secretary Potash Areas</u> if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

Operator has proposed to pump down 10-3/4" X 7-5/8" annulus. Operator must top out cement after the bradenhead squeeze and verify cement to surface. Operator can also check TOC with Echo-meter. CBL must be run from TD of the 7-5/8" casing to surface if confidence is lacking on the quality of the bradenhead squeeze cement job. Submit results to BLM.

If cement does not tie-back into the previous casing shoe, a third stage remediation BH may be performed. The appropriate BLM office shall be notified.

Bradenhead squeeze in the production interval is only as an edge case remediation measure and is NOT approved in this COA. If production cement job experiences losses and a bradenhead squeeze is needed for tie-back, BLM Engineering should be notified prior to job with volumes and planned wellbore schematic. CBL will be needed when this occurs.

3. The **5-1/2** inch production casing shall be set at approximately **26,499** feet. The minimum required fill of cement behind the **5-1/2** inch production casing is:

Option 1 (Single Stage):

• Cement should tie-back at least **500 feet** into previous casing string. Operator shall provide method of verification.

<u>A2:</u>

- 1. The **13-3/8** inch surface casing shall be set at approximately **868** feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **24 hours in the Potash Area** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
- 2. The 7-5/8 inch intermediate casing shall be set at approximately 9807 feet. KEEP CASING 1/2 FULL FOR COLLAPSE SF. PRESSURE TEST NEEDS EXTERNAL PRESSURE REVIEW AS WELL. The minimum required fill of cement behind the 7-5/8 inch intermediate casing is:

Option 1 (Single Stage):

• Cement to surface. If cement does not circulate see B.1.a, c-d above.

Option 2 (Bradenhead):

Operator has proposed to cement in two stages by conventionally cementing the first stage and performing a bradenhead squeeze on the second stage, contingent upon no returns to surface.

- c. First stage: Operator will cement with intent to reach the top of the **Brushy** Canyon
- d. Second stage:
 - Operator will perform bradenhead squeeze and top-out. Cement to surface. If cement does not reach surface, the appropriate BLM office shall be notified
- 3. The **5-1/2** inch production casing shall be set at approximately **26,499** feet. The minimum required fill of cement behind the **5-1/2** inch production casing is:

Option 1 (Single Stage):

• Cement should tie-back at least **500 feet** into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

- 1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
- 2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 5000 (5M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 3500 (70% Working Pressure) psi.
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.

- d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in Onshore Order 1 and 2.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

(Note: For a minimum 5M BOPE or less (Utilizing a 10M BOPE system) BOPE Break Testing Variance

- BOPE Break Testing is ONLY permitted for 5M BOPE or less. (Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP)
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer (575-706-2779) prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted (575-361-2822 Eddy County) 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per Onshore Oil and Gas Order No. 2.

• If in the event break testing is not utilized, then a full BOPE test would be conducted.

Offline Cementing

Offline cementing OK for surface and intermediate intervals. Notify the BLM prior to the commencement of any offline cementing procedure.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

Contact Eddy County Petroleum Engineering Inspection Staff:

Email or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220; **BLM_NM_CFO_DrillingNotifications@BLM.GOV**; (575) 361-2822

Contact Lea County Petroleum Engineering Inspection Staff:

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 689-5981

- 1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - i.Notify the BLM when moving in and removing the Spudder Rig.
 - ii.Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - iii.BOP/BOPE test to be conducted per **43** CFR **3172** as soon as 2nd Rig is rigged up on well.
- 2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
- 3. For intervals in which cement to surface is required, cement to surface should be verified with a visual check and density or pH check to differentiate

cement from spacer and drilling mud. The results should be documented in the driller's log and daily reports.

A. CASING

- 1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
- 2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
- 3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
- 4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
- 5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
- 6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
- 7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
- 8. Whenever a casing string is cemented in the R-111-Q potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

- 1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR 3172**.
- 2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for

review. These documents shall be posted in the company man's trailer and on the rig floor.

- 3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
- 4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - ii.If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - iii.Manufacturer representative shall install the test plug for the initial BOP test.
 - iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
 - v.If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- 5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - i.In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - ii.In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)
 - iii. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to 43 CFR 3172 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
 - iv. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
 - v.The results of the test shall be reported to the appropriate BLM office.

- vi. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- vii. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- viii.BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per 43 CFR 3172.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area. Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

KPI 1/26/2025

Tenaris

API BTC -Special Clearance

 Coupling
 Pipe Body

 Grade: J55 (Casing)
 Grade: J55 (Casing)

 Body: Bright Green
 1st Band: Bright Green

 1st Band: White
 2nd Band:

 2nd Band: 3rd Band:

 3rd Band: 4th Band:

Outside Diameter	10.750 in.	Wall Thickness	0.350 in.	Grade	J55 (Casing)
Min. Wall Thickness	87.50 %	Pipe Body Drift	API Standard	Туре	Casing
Connection OD Option	Special Clearance				

Pipe Body Data

Geometry			
Nominal OD	10.750 in.	Drift	9.894 in.
Wall Thickness	0.350 in.	Plain End Weight	38.91 lb/ft
Nominal Weight	40.500 lb/ft	OD Tolerance	API
Nominal ID	10.050 in.		

Performance	
SMYS	55,000 psi
Min UTS	75,000 psi
Body Yield Strength	629 x1000 lb
Min. Internal Yield Pressure	3130 psi
Collapse Pressure	1580 psi
Max. Allowed Bending	23 °/100 ft

Connection Data

·	oupling Face Load
Thread per In 5 Jo	
	oint Strength
Geometry	Performance

Performance	
Joint Strength	700 x1000 lb
Coupling Face Load	329 x1000 lb
Internal Pressure Capacity	3130 psi

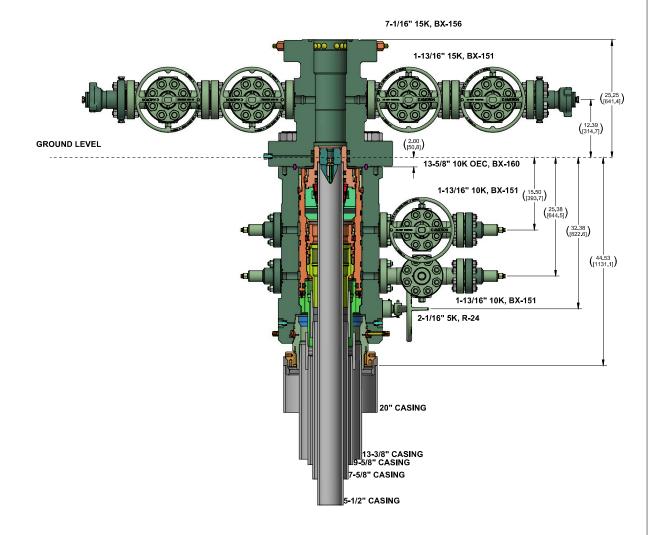
Notes

For products according to API Standards 5CT & 5B; Performance calculated considering API Technical Report 5C3 (Sections 9 & 10) equations.

For geometrical and steel grades combinations not considered in the API Standards 5CT and/or 5B; Performance calculations indirectly derived from API Technical Report 5C3 (Sections 9 & 10) equations.

Couplings OD are shown according to current API 5CT 10th Edition.

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	CONFIDENTIAL									
SURFACE TREATMENT	DO NOT SC			CAMERON	SURFACE					
	DRAWN BY: A. SKLENKA	26 Apr 22	W	A Schlumberger Company	SYSTEMS					
MATERIAL & HEAT TREAT	A. SKLENKA	26 Apr 22	۸.	OXY APT NST 10K 3 STAGE	WELLBEAD					
	A. SKLENKA	26 Apr 22		ANDARD / EMERGENC	Y SYSTEM					
ESTIMATED 7 WEIGHT:	968.4 LBS INTIAL USE BM: 3614.4 KG IT# 7836394		1 or 1	LO-096232-6	2					

Oxy USA Inc. - Regal Lager 31_19 Fed Com 23H Drill Plan

1. Geologic Formations

TVD of Target (ft):	10492	Pilot Hole Depth (ft):	
Total Measured Depth (ft):	26599	Deepest Expected Fresh Water (ft):	808

Delaware Basin

Formation	MD-RKB (ft)	TVD-RKB (ft)	Expected Fluids
Rustler	808	808	
Salado	1055	1055	Salt
Marker Bed 126	2000	2000	Salt
Castile	2576	2576	Salt
Delaware	4545	4545	Oil/Gas/Brine
Bell Canyon	4623	4623	Oil/Gas/Brine
Cherry Canyon	5470	5469	Oil/Gas/Brine
Brushy Canyon	6762	6726	Losses
Bone Spring	8650	8522	Oil/Gas
Bone Spring 1st	9736	9555	Oil/Gas
Bone Spring 2nd	10466	10235	Oil/Gas
Bone Spring 3rd			Oil/Gas
Wolfcamp			Oil/Gas
Penn			Oil/Gas
Strawn	f - i l - l i	-1	Oil/Gas

^{*}H2S, water flows, loss of circulation, abnormal pressures, etc.

2. Casing Program

		IV	ID	T۱	/D				
	Hole	From	То	From	То	Csg.	Csg Wt.		
Section	Size (in)	(ft)	(ft)	(ft)	(ft)	OD (in)	(ppf)	Grade	Conn.
Surface	17.5	0	868	0	868	13.375	54.5	J-55	ВТС
Salt	12.25	0	4545	0	4545	10.75	40.5	J-55	BTC-SC
Intermediate	9.875	0	10105	0	9901	7.625	26.4	L-80 HC	BTC
Production	6.75	0	16205	0	10492	5.5	20	P-110	Sprint-TC SC
Production	6.75	16205	26599	10492	10492	5.5	20	P-110	DWC/C-HT-IS

All casing strings will be tested in accordance with 43 CFR part 3170 Subpart 3172

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١	All Casing SF Values will meet or exceed						
ı	those below						
ı	SF	SF	Body SF	Laint CE			
1	эг	эг	Douy 3r	JOHN SF			
	Collapse	Burst	Tension	Tension			

Annular Clearance Variance Request

As per the agreement reached in the Oxy/BLM face-to-face meeting on Feb 22, 2018, Oxy requests permission to allow deviation from the 0.422" annular clearance requirement. Please see Annular Clearance Variance attachment for further details.

	Y or N
Is casing new? If used, attach certification as required in 43 CFR 3160	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	Y
Does the above casing design meet or exceed BLM's minimum standards?	Y
If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching	37
the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-Q?	Y
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back	Y
500' into previous casing?	1
Is well located in R-111-Q and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

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3. Cementing Program

Section	Stage	Slurry:	Sacks	Yield (ft^3/ft)	Density (lb/gal)	Excess:	тос	Placement	Description
Surface	1	Surface - Tail	907	1.33	14.8	100%	-	Circulate	Class C+Accel.
Int.1	1	Intermediate - Tail	85	1.33	14.8	20%	4,045	Circulate	Class C+Accel.
Int.1	1	Intermediate - Lead	638	1.73	12.9	50%	-	Circulate	Class Pozz+Ret.
Int. 2	1	Intermediate 1S - Tail	415	1.68	13.2	5%	7,012	Circulate	Class C+Ret., Disper.
Int. 2	2	Intermediate 2S - Tail BH	1009	1.71	13.3	25%	1	Bradenhead	Class C+Accel.
Prod.	1	Production - Tail	963	1.84	13.3	25%	9,605	Circulate	Class C+Ret.

Offline Cementing Request

Oxy requests a variance to cement the 9.625" and/or 7.625" intermediate casing strings offline in accordance to the approved variance, EC Tran 461365. Please see Offline Cementing Variance attachment

Bradenhead CBL Request

Oxy requests permission to adjust the CBL requirement after bradenhead cement jobs, on 7-5/8" intermediate casings, as per the agreement reached in the OXY/BLM meeting on September 5, 2019. Please see Bradenhead CBL Variance attachment for further details.

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4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP		Туре	•	Tested to:	TVD Depth (ft) per Section:
		5M		Annular	✓	70% of working pressure	
				Blind Ram	✓		4545
12.25" Hole	13-5/8"	514		Pipe Ram		250 psi / 5000 psi	
		5M		Double Ram	✓	250 psi / 5000 psi	
			Other*				
	13-5/8"	5M		Annular	✓	70% of working pressure	
		5M		Blind Ram	✓		
9.875" Hole			Pipe Ram			250 psi / 5000 psi	9901
				Double Ram	✓	250 psi / 5000 psi	
			Other*				
		5M		Annular	1	70% of working pressure	
		5M		Blind Ram	1	•	
6.75" Hole	13-5/8"			Pipe Ram		350 mai / 5000 mai 104	
			Double Ram		✓	250 psi / 5000 psi	
			Other*				

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per 43 CFR part 3170 Subpart 3172 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold.

5M Annular BOP Request

Per BLM's Memorandum No. NM-2017-008: Decision and Rationale for a Variance Allowing the Use of a 5M Annular Preventer with a 10M BOP Stack, Oxy requests to employ a 5M annular with a 10M BOPE stack in the pilot and lateral sections of the well and will ensure that two barriers to flow are maintained at all

^{*}Specify if additional ram is utilized

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Formation integrity test will be performed per 43 CFR part 3170 Subpart 3172.

On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with 43 CFR part 3170 Subpart 3172.

A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.

Are anchors required by manufacturer?

A multibowl or a unionized multibowl wellhead system will be employed. The wellhead and connection to the BOPE will meet all API 6A requirements. The BOP will be tested per 43 CFR part 3170 Subpart 3172 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. We will test the flange connection of the wellhead with a test port that is directly in the flange. We are proposing that we will run the wellhead through the rotary prior to cementing surface casing as discussed with the BLM on October 8, 2015.

See attached schematics.

BOP Break Testing Request

Oxy requests permission to adjust the BOP break testing (intermediate and production) requirements as per the agreement reached in the OXY/BLM meeting on April 4th, 2025. Please see BOP Break Testing Variance attachment for further details.

Oxy will use Cameron ADAPT wellhead system that uses an OEC top flange connection. This connection has been fully vetted and verified by API to Spec 6A and carries an API monogram.

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5. Mud Program

Section	Dep	th	Depth -	TVD	Tyma	Weight	Vissesitu	Water
Section	From (ft)	To (ft)	From (ft)	To (ft)	Туре	(ppg)	Viscosity	Loss
Surface	0	868	0	868	Water-Based Mud	8.6 - 8.8	40-60	N/C
Intermediate 1	868	4545	868	4545	Saturated Brine-Based or Oil-Based Mud	8.0 - 10.0	35-45	N/C
Intermediate 2	4545	10105	4545	9901	Water-Based or Oil- Based Mud	8.0 - 10.0	38-50	N/C
Production	10105	26599	9901	10492	Water-Based or Oil- Based Mud	8.0 - 9.6	38-50	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times. The following is a general list of products: Barite, Bentonite, Gypsum, Lime, Soda Ash, Caustic Soda, Nut Plug, Cedar Fiber, Cotton Seed Hulls, Drilling Paper, Salt Water Clay, CACL2. Oxy will use a closed mud system.

What will be used to monitor the loss or gain of fluid?	PVT/MD Totco/Visual Monitoring
---	--------------------------------

6. Logging and Testing Procedures

Loggi	ng, Coring and Testing.
Vac	Will run GR from TD to surface (horizontal well – vertical portion of hole).
Yes	Stated logs run will be in the Completion Report and submitted to the BLM.
No	Logs are planned based on well control or offset log information.
No	Drill stem test? If yes, explain
No	Coring? If yes, explain

Additi	ional logs planned	Interval
No	Resistivity	
No	Density	
Yes	CBL	Production string
Yes	Mud log	Bone Spring – TD
No	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	5238 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	164°F

Pump high viscosity sweeps as needed for hole cleaning. The mud system will be monitored visually/manually as well as with an electronic PVT. The necessary mud products for additional weight and fluid loss control will be on location at all times. Appropriately weighted mud will be used to isolate potential gas, oil, and water zones until such time as casing can be cemented into place for zonal

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of 43 CFR part 3170 Subpart 3172. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

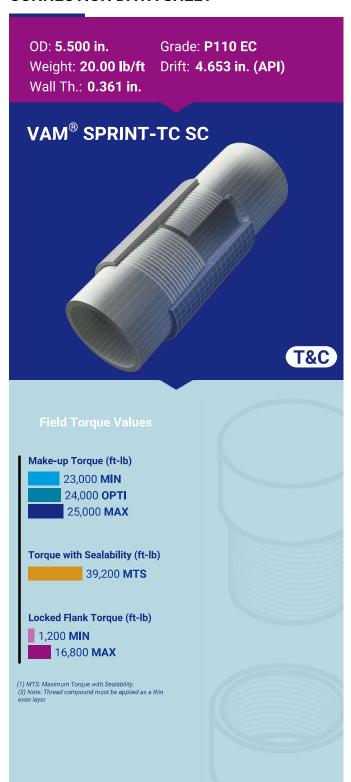
N	H2S is present
Υ	H2S Plan attached

8. Other facets of operation

	Yes/No
Will the well be drilled with a walking/skidding operation? If yes, describe.	
We plan to drill the 4 well pad in batch by section: all surface sections, intermediate	Van
sections and production sections. The wellhead will be secured with a night cap whenever	Yes
the rig is not over the well.	
Will more than one drilling rig be used for drilling operations? If yes, describe.	
Oxy requests the option to contract a Surface Rig to drill, set surface casing, and cement for	
this well. If the timing between rigs is such that Oxy would not be able to preset surface,	Yes
the Primary Rig will MIRU and drill the well in its entirety per the APD. Please see the	
attached document for information on the spudder rice	
Total Estimated Cuttings Volume: 2052 bbls	



CONNECTION DATA SHEET



PIPE BODY PROPERTIES •

Nominal OD	5.500	in.
Nominal ID	4.778	in.
Nominal Wall Thickness	0.361	in.
Minimum Wall Thickness	87.5	%
Nominal Weight (API)	20.00	lb/ft
Plain End Weight	19.83	lb/ft
Drift	4.653	in.
Grade Type	High Yie	ld
Grade Type Minimum Yield Strength	High Yie 125	ld <i>ksi</i>
Minimum Yield Strength	125	ksi
Minimum Yield Strength Maximum Yield Strength	125 140	ksi ksi
Minimum Yield Strength Maximum Yield Strength Minimum Ultimate Tensile Strength	125 140 135	ksi ksi ksi

CONNECTION PROPERTIES

Connection Type	Semi-Pr	emium Threade
Nominal Connection OD	5.900	in.
Nominal Connection ID	4.830	in.
Make-up Loss	3.973	in.
Coupling Length	8.296	in.
Tension Efficiency	100	% Pipe Body
Compression Efficiency	100	% Pipe Body
Internal Pressure Efficiency	100	% Pipe Body
External Pressure Efficiency	100	% Pipe Body

JOINT PERFORMANCES •

Tension Strength	729	klb
Compression Strength	729	klb
Internal Pressure Resistance	14,360	psi
External Pressure Resistance	12,090	psi
Maximum Bending, Structural	104	°/100 ft
Maximum Bending, with Sealability	30	°/100 ft
Maximum Load on Coupling Face	227	klb

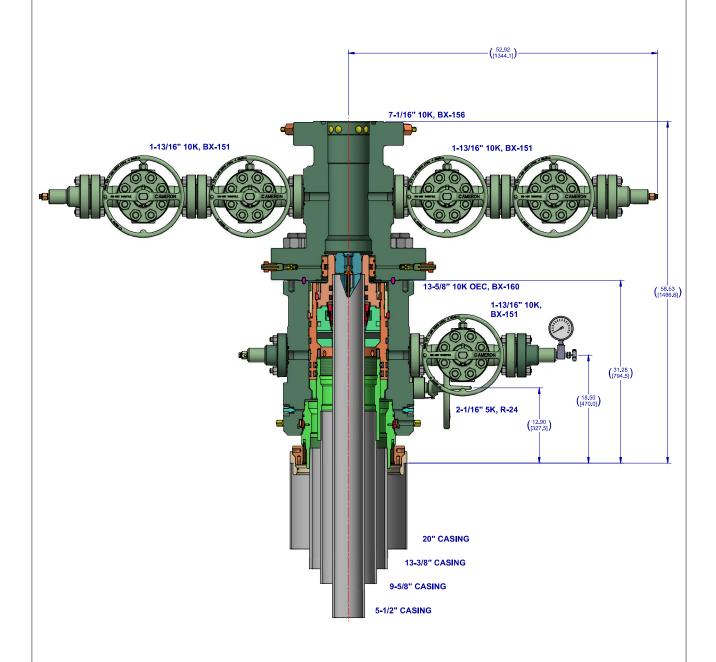
(4) Sealability rating demonstrated as per API RP 5C5 / ISO 13679



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Notes:

1. THIS IS A PROPOSAL DRAWING AND DIMENSIONS SHOWN ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PROCESS.

CONFIDENTIAL											
SURFACE TREATMENT	DO NOT SO			CAMERON	SURFACE						
	D. GOTTUNG	18 Feb 22	W.	A Schlumberger Company	SYSTEMS						
MATERIAL & HEAT TREAT	D. GOTTUNG APPROVED BY: D. GOTTUNG	18 Feb 22 DATE 18 Feb 22		OXY 13-5/8" 10K AD 16" X 10-3/4" X 7-5/8" 3							
	5.068 LBS INTIAL USE BM 73.748 KG	I to reu zz	SHEET 1 of 1	SD-053434-94-	-12 REV:						

BOP Break Testing Request

Oxy requests permission to adjust the BOP break testing requirements as per the agreement reached with OXY/BLM on April 4th, 2025.

BOPE Break Testing is ONLY permitted for 5M BOPE or less (utilizing a 10M BOPE system.)

Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP.

BOP break test for the **intermediate or production** section under the following conditions:

- After a full BOP test is conducted.
- When skidding to drill an intermediate or production section which does not penetrate the deeper than the Wolf Camp formation (<5M).
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per 3 CFR part 3170 Subpart 3172
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- In the event break testing is not utilized, then a full BOPE test would be conducted.
- If the kill line is broken prior to skid, two tests will be performed.
 - o 1) Wellhead flange, co-flex hose, kill line connections and upper pipe rams
 - o 2) Wellhead flange, HCR valve, check valve, upper pipe rams
- If the kill line is not broken prior to skid, only one test will be performed.
 - o 1)Wellhead flange, co-flex hose, check valve, upper pipe rams

Subject: Request for a Variance Allowing Break Testing of a Blowout Preventer Stack

OXY USA Inc. (OXY) requests a variance to allow break testing of the Blowout Preventer (BOP) stack when skidding a drilling rig between wells on multi-well pads. This practice entails retesting only the connections of the **BOP** stack that have been disconnected during this operation and not a complete **BOP** test.

Background

43 CFR part 3170 Subpart 3172 states that a **BOP** test must be performed whenever any seal subject to test pressure is broken. The current interpretation of the Bureau of Land Management (BLM) is this requires a complete **BOP** test and not just a test of the affected component. 43 CFR part 3170 Subpart 3172, Section I.D.2. states, "Some situations may exist either on a well-by-well basis or field-wide basis whereby it is commonly accepted practice to vary a particular minimum standard(s) established in this Order. This situation can be resolved by requesting a variance...". OXY feels the practice of break testing the **BOP** stack is such a situation. Therefore, as per 43 CFR part 3170 Subpart 3172, Section IV., OXY submits this request for the variance.

Supporting Rationale

43 CFR part 3170 Subpart 3172 became effective on December 19, 1988, and has remained the standard for regulating BLM onshore drilling operations for almost 30 years. During this time there have been significant changes in drilling technology. **BLM** continues to use the variance request process to allow for the use of modern technology and acceptable engineering practices that have arisen since 43 CFR part 3170 Subpart 3172 was originally released. The drilling rig fleet OXY utilizes in New Mexico was built with many modern upgrades. One of which allows the rigs to skid between wells on multi-well pads. A part of this rig package is

a hydraulic winch system which safely installs and removes the BOP from the wellhead and carries it during skidding operations. This technology has made break testing a safe and reliable procldure.

American Petroleum Institute (API) standards, specifications and recommended practices are considered industry standards and are consistently utilized and referenced by the industry. 43 CFR part 3170 Subpart 3172 recognized API Recommended Practices (RP) 53 in its original development. API Standard 53, *Blowout Prevention Equipment Systems for Drilling Wells* (Fourth Edition, November 2012, Addendum 1, July 2016) recognizes break testing as an acceptable practice. Specifically, API Standard 53, Section 6.5.3.4.1.b states "Pressure tests on the well control equipment shall be conducted after the disconnection or repair of any pressure containment seal in the **BOP** stack, choke line, kill line, choke manifold, or wellhead assembly but limited to the affected component."

The Bureau of Safety and Environmental Enforcement (BSEE), Department of Interior, has also utilized the API standards, specifications and best practices in the development of its offshore oil and gas regulations and incorporates them by reference within its regulations. BSEE issued new offshore regulations under 30 CFR Part 250, *Oil and Gas and Sulphur Operations in the Outer Continental Shelf - Blowout Preventer Systems and Well Control*, which became effective on July 28, 2016. Section 250.737(d.1) states "Follow the testing requirements of API Standard 53". In addition, Section 250.737(d.8) has adopted language from **API** Standard 53 as it states "Pressure test affected **BOP** components following the disconnection or repair of any well-pressure containment seal in the wellhead or **BOP** stack assembly".

Break testing has been approved by the BLM in the past. See the Appendix for a Sundry Notice that was approved in 2015 by the Farmington Field Office. This approval granted permission for the operator to break test when skidding its Aztec 1000 rig on multi-well pads.

Oxy feels break testing and our current procedures meet the intent of 43 CFR part 3170 Subpart 3172 and often exceed it. We have not seen any evidence that break testing results in more components failing tests than seen on full BOP tests. As skidding operations take place within the 30-day full BOPE test window, the BOP shell and components such as the pipe rams and check valve get tested to the full rated working pressure more often. Therefore, there are more opportunities to ensure components are in good working order. Also, Oxy's standard requires complete BOP tests more often than that of 43 CFR part 3170 Subpart 3172. In addition to function testing the annular at least weekly and the pipe and blind rams on each trip, Oxy also performs a choke drill prior to drilling out every casing shoe. As a crew's training is a vital part of well control, this procedure to simulate step one of the Driller's Method exceeds the requirements of 43 CFR part 3170 Subpart 3172.

Procedures

- 1) OXY would perform BOP break testing on multi-well pads where multiple intermediate or production sections can be drilled and cased within the 21-day BOP test window
- 2) After performing a complete BOP test on the first well and drilling and casing the hole section, three breaks would be made on the BOP.
 - > Between the check valve and the kill line
 - ➤ Between the HCR valve and the co-flex hose or the co-flex hose and the manifold
 - ➤ Between the BOP flange and the wellhead
- 3) The BOP is then lifted and removed from the wellhead by the hydraulic winch system
- 4) After skidding to the next well, the BOP is moved to the wellhead by the hydraulic winch system and installed
- 5) The choke line and kill line are reconnected
- 6) A test plug is installed in the wellhead with a joint of drill pipe and the internal parts of the check valve are removed
- 7) A shell test is performed against the upper pipe rams testing all thlee breaks
- 8) The internal parts of the check valve are reinstalled and the HCR valve is closed. A second test is performed on them
- 9) These tests consist of a 250 psi low test and a high test to the value submitted in the APD or SN (e.g., 5000 psi)
- 10) Perform a function test of components not pressure tested to include the lower pipe rams, the blind rams and the annular
- 11) If this were a three well pad, the same three breaks on the BOP would be made and steps 4 through 11 would be repeated
- 12) A second break test would only be done if the third hole section could be completed within the 21-day BOP test window
- 13) If a second break test is performed, additional components that were not tested on the initial break test will be tested on this break test

Notes:

- a. If any parts of the BOP are changed out or any additional breaks are made during the skidding operation, these affected components would also be tested as in step 9.
- b. As the choke manifold remains stationary during the skidding operation and the only break to the manifold is tested in step 8 above, no further testing of the manifold is done until the next full BOP test.

Summary

OXY requests a variance to allow break testing of the BOP stack when skidding drilling rigs between wells on multi-well pads. API standards, specifications and recommended practices are considered industry standards and are consistently utilized and referenced by the industry and the BLM. API Standard 53 recognizes break testing as an acceptable practice and BSEE adopted language from this standard into its newly created 30 CFR Part 250 which also supports break testing. Due to this, OXY feels this request meets the intent of 43 CFR part 3170

PRD NM DIRECTIONAL PLANS (NAD 1983) Regal Lager 31_19 Fed Com Regal Lager 31_19 Fed Com 23H

ORIG HOLE

Plan: Permitting Plan

Standard Planning Report

26 June, 2025

Planning Report

Database: HOPSPP

Company: ENGINEERING DESIGNS

Project: PRD NM DIRECTIONAL PLANS (NAD 1983)

Site: Regal Lager 31_19 Fed Com
Well: Regal Lager 31_19 Fed Com 23H

Wellbore: ORIG HOLE

Design: Permitting Plan

Site

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well Regal Lager 31_19 Fed Com 23H

RKB=25' @ 3662.00ft RKB=25' @ 3662.00ft

Grid

Minimum Curvature

Project PRD NM DIRECTIONAL PLANS (NAD 1983)

Map System:US State Plane 1983Geo Datum:North American Datum 1983

Map Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

Using geodetic scale factor

Regal Lager 31_19 Fed Com

 Site Position:
 Northing:
 520,226.48 usft
 Latitude:
 32.428649

 From:
 Map
 Easting:
 732,271.10 usft
 Longitude:
 -103.714504

Position Uncertainty: 0.00 ft Slot Radius: 13.200 in

Well Regal Lager 31_19 Fed Com 23H

Well Position +N/-S 0.00 ft 519,178.98 usf Latitude: 32.425738 Northing: 734,229.04 usf Longitude: -103.708178 +E/-W 0.00 ft Easting: **Position Uncertainty** 1.79 ft Wellhead Elevation: ft Ground Level: 3,637.00 ft

Grid Convergence: 0.34 °

Wellbore ORIG HOLE

 Magnetics
 Model Name
 Sample Date (°)
 Declination (°)
 Dip Angle (°)
 Field Strength (nT)

 HDGM_FILE
 5/3/2023
 6.42
 60.08
 47,698.50000000

Design Permitting Plan Audit Notes: Version: Phase: **PROTOTYPE** Tie On Depth: 0.00 Vertical Section: Depth From (TVD) +N/-S +E/-W Direction (ft) (ft) (ft) (°) 0.00 0.00 0.00 354.62

Plan Survey Tool Program Date 6/26/2025

Depth From Depth To

(ft) (ft) Survey (Wellbore) Tool Name Remarks

0.00 26,598.19 Permitting Plan (ORIG HOLE) B001Mc_MWD+HRGM_R5

MWD+HRGM

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,835.00	0.00	0.00	4,835.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,635.08	18.00	289.23	6,605.61	92.35	-264.81	1.00	1.00	0.00	289.23	
10,205.30	18.00	289.23	10,001.08	455.65	-1,306.59	0.00	0.00	0.00	0.00	
11,048.67	90.30	359.63	10,491.93	1,027.39	-1,461.36	10.00	8.57	8.35	71.21	
26,598.67	90.30	359.63	10,410.82	16,576.85	-1,561.66	0.00	0.00	0.00	0.00 P	BHL (Regal Lager

Planning Report

Database: Company: Project: HOPSPP

ENGINEERING DESIGNS

PRD NM DIRECTIONAL PLANS (NAD 1983)

Site: Regal Lager 31_19 Fed Com
Well: Regal Lager 31_19 Fed Com 23H

Wellbore: ORIG HOLE

Design: Permitting Plan

Local Co-ordinate Reference:

TVD Reference: MD Reference:

North Reference: Survey Calculation Method: Well Regal Lager 31_19 Fed Com 23H

RKB=25' @ 3662.00ft

RKB=25' @ 3662.00ft

		all							
lanned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	
									0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
•			·						
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500,00	0.00	0.00	3,500,00	0.00	0.00	0.00	0.00	0.00	0.00
3,600,00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700,00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
-									
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
·			4,700.00						
4,800 . 00 4.835 . 00	0.00 0.00	0.00 0.00	4,800.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00
4,035.00 Build 1°/100		0.00	4,030.00	0.00	0.00	0.00	0.00	0.00	0.00
Dulla 1-/100	,								
4,900.00	0.65	289.23	4,900.00	0.12	-0.35	0.15	1.00	1.00	0.00
5,000.00	1.65	289.23	4,999.98	0.78	-2.24	0.99	1.00	1.00	0.00
5,100.00	2.65	289.23	5,099.91	2.02	-5.79	2.55	1.00	1.00	0.00
5,200.00	3.65	289.23	5,199.75	3.83	-10.97	4.84	1.00	1.00	0.00

Planning Report

Database: Company: Project:

HOPSPP

ENGINEERING DESIGNS

PRD NM DIRECTIONAL PLANS (NAD 1983)

Site: Regal Lager 31_19 Fed Com Well: Regal Lager 31_19 Fed Com 23H

Wellbore: **ORIG HOLE** Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well Regal Lager 31_19 Fed Com 23H

RKB=25' @ 3662.00ft RKB=25' @ 3662.00ft

5,300.00 5,400.00 5,500.00 5,600.00 5,600.00 5,700.00 5,800.00 6,000.00 6,000.00 6,100.00 6,300.00 6,600.00 6,635.08 Hold 18° Tangent 6,700.00 6,800.00 6,900.00 7,000.00 7,100.00 7,200.00 7,300.00 7,400.00 7,500.00 7,600.00 7,700.00 7,800.00 7,800.00 7,900.00 8,000.00 8,000.00 8,200.00 8,300.00 8,400.00 8,500.00 8,600.00 8,700.00 9,000.00 9,100.00 9,200.00 9,300.00 9,300.00 9,400.00 9,500.00 9,500.00 9,500.00 9,600.00	4.65 5.65 6.65 7.65 8.65 9.65 10.65 12.65 13.65 14.65 15.65 16.65 17.65	Azimuth (°) 289.23 289.23 289.23 289.23 289.23 289.23 289.23 289.23	Vertical Depth (ft) 5,299.49 5,399.08 5,498.51 5,597.73 5,696.72 5,795.44 5,893.88 5,991.99	+N/-S (ft) 6.21 9.17 12.69 16.79 21.46 26.70	+E/-W (ft) -17.81 -26.28 -36.40 -48.15 -61.54	Vertical Section (ft) 7.85 11.59 16.05	Dogleg Rate (°/100ft) 1.00	Build Rate (°/100ft)	Turn Rate (°/100ft)
Depth (ft)	4.65 5.65 6.65 7.65 8.65 9.65 10.65 12.65 13.65 14.65 15.65 16.65 17.65	289.23 289.23 289.23 289.23 289.23 289.23 289.23 289.23 289.23 289.23	Depth (ft) 5,299.49 5,399.08 5,498.51 5,597.73 5,696.72 5,795.44 5,893.88	6.21 9.17 12.69 16.79 21.46 26.70	-17.81 -26.28 -36.40 -48.15	7.85 11.59 16.05	Rate (°/100ft)	Rate (°/100ft)	Rate (°/100ft)
5,400.00 5,500.00 5,500.00 5,600.00 5,700.00 5,800.00 6,000.00 6,100.00 6,200.00 6,300.00 6,400.00 6,500.00 6,635.08 Hold 18° Tangent 6,700.00 6,800.00 7,000.00 7,100.00 7,200.00 7,300.00 7,400.00 7,500.00 7,600.00 7,600.00 7,900.00 8,000.00 8,000.00 8,000.00 8,700.00 8,700.00 8,800.00 8,700.00 8,800.00 8,700.00 8,900.00 8,900.00 8,900.00 9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00 9,500.00 9,500.00 9,500.00	5.65 6.65 7.65 8.65 9.65 10.65 11.65 12.65 13.65 14.65 15.65 16.65 17.65	289.23 289.23 289.23 289.23 289.23 289.23 289.23 289.23 289.23	5,399.08 5,498.51 5,597.73 5,696.72 5,795.44 5,893.88	9.17 12.69 16.79 21.46 26.70	-26.28 -36.40 -48.15	11.59 16.05		1.00	0.00
5,500.00 5,600.00 5,600.00 5,700.00 5,800.00 6,000.00 6,100.00 6,200.00 6,300.00 6,600.00 6,600.00 6,635.08 Hold 18° Tangent 6,700.00 6,800.00 6,900.00 7,100.00 7,200.00 7,300.00 7,400.00 7,500.00 7,600.00 7,600.00 7,700.00 8,000.00 8,100.00 8,200.00 8,300.00 8,400.00 8,500.00 8,600.00 8,700.00 8,800.00 8,900.00 9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00 9,500.00 9,500.00 9,500.00	6.65 7.65 8.65 9.65 10.65 11.65 12.65 13.65 14.65 15.65 16.65 17.65	289.23 289.23 289.23 289.23 289.23 289.23 289.23 289.23	5,498.51 5,597.73 5,696.72 5,795.44 5,893.88	12.69 16.79 21.46 26.70	-36.40 -48.15	16.05	1.00		0.00
5,600.00 5,700.00 5,800.00 5,900.00 6,000.00 6,100.00 6,200.00 6,300.00 6,400.00 6,500.00 6,635.08 Hold 18° Tangent 6,700.00 6,800.00 7,000.00 7,100.00 7,200.00 7,300.00 7,400.00 7,500.00 7,600.00 7,600.00 7,900.00 8,000.00 8,000.00 8,000.00 8,000.00 8,700.00 8,800.00 8,900.00 8,900.00 8,900.00 9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00 9,500.00 9,600.00	7.65 8.65 9.65 10.65 11.65 12.65 13.65 14.65 15.65 16.65 17.65	289.23 289.23 289.23 289.23 289.23 289.23 289.23	5,597.73 5,696.72 5,795.44 5,893.88	12.69 16.79 21.46 26.70	-48.15			1.00	0.00
5,700.00 5,800.00 5,800.00 6,000.00 6,000.00 6,100.00 6,200.00 6,300.00 6,400.00 6,500.00 6,635.08 Hold 18° Tangent 6,700.00 6,800.00 7,000.00 7,100.00 7,300.00 7,400.00 7,500.00 7,600.00 7,600.00 7,900.00 8,000.00 8,000.00 8,000.00 8,000.00 8,700.00 8,800.00 8,700.00 8,800.00 8,900.00 8,900.00 8,900.00 9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00 9,500.00 9,600.00	8.65 9.65 10.65 11.65 12.65 13.65 14.65 15.65 16.65 17.65	289.23 289.23 289.23 289.23 289.23 289.23	5,696.72 5,795.44 5,893.88	16.79 21.46 26.70			1.00	1.00	0.00
5,700.00 5,800.00 5,800.00 6,000.00 6,000.00 6,100.00 6,200.00 6,300.00 6,400.00 6,500.00 6,635.08 Hold 18° Tangent 6,700.00 6,800.00 7,000.00 7,100.00 7,300.00 7,400.00 7,500.00 7,600.00 7,600.00 7,900.00 8,000.00 8,000.00 8,000.00 8,000.00 8,700.00 8,800.00 8,700.00 8,800.00 8,900.00 8,900.00 8,900.00 9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00 9,500.00 9,600.00	8.65 9.65 10.65 11.65 12.65 13.65 14.65 15.65 16.65 17.65	289.23 289.23 289.23 289.23 289.23 289.23	5,696.72 5,795.44 5,893.88	21.46 26.70		21.23	1.00	1.00	0.00
5,800.00 5,900.00 6,000.00 6,100.00 6,200.00 6,300.00 6,400.00 6,500.00 6,600.00 6,635.08 Hold 18° Tangent 6,700.00 6,800.00 6,900.00 7,000.00 7,100.00 7,200.00 7,300.00 7,400.00 7,600.00 7,600.00 7,900.00 8,000.00 8,000.00 8,000.00 8,700.00 8,800.00 8,700.00 8,800.00 8,900.00 8,900.00 8,900.00 9,000.00 9,000.00 9,100.00 9,300.00 9,400.00 9,500.00 9,500.00 9,500.00	9.65 10.65 11.65 12.65 13.65 14.65 15.65 16.65 17.65	289.23 289.23 289.23 289.23 289.23	5,795.44 5,893.88	26.70		27.14	1.00	1.00	0.00
6,000.00 6,100.00 6,200.00 6,200.00 6,300.00 6,400.00 6,500.00 6,600.00 6,635.08 Hold 18° Tangent 6,700.00 6,800.00 7,000.00 7,100.00 7,200.00 7,300.00 7,400.00 7,500.00 7,600.00 7,700.00 8,000.00 8,000.00 8,100.00 8,200.00 8,300.00 8,400.00 8,500.00 8,600.00 8,700.00 9,000.00 9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00 9,500.00 9,500.00	11.65 12.65 13.65 14.65 15.65 16.65 17.65 18.00	289.23 289.23 289.23			-76.55	33.76	1.00	1.00	0.00
6,000.00 6,100.00 6,200.00 6,200.00 6,300.00 6,400.00 6,500.00 6,600.00 6,635.08 Hold 18° Tangent 6,700.00 6,800.00 7,000.00 7,100.00 7,200.00 7,300.00 7,400.00 7,500.00 7,600.00 7,700.00 7,800.00 7,900.00 8,000.00 8,000.00 8,100.00 8,200.00 8,500.00 8,600.00 8,700.00 8,800.00 8,900.00 9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00 9,500.00	11.65 12.65 13.65 14.65 15.65 16.65 17.65 18.00	289.23 289.23 289.23		32.50	-93.19	41.10	1.00	1.00	0.00
6,100.00 6,200.00 6,200.00 6,300.00 6,400.00 6,500.00 6,600.00 6,635.08 Hold 18° Tangent 6,700.00 6,800.00 6,900.00 7,000.00 7,000.00 7,100.00 7,200.00 7,300.00 7,400.00 7,500.00 7,600.00 7,700.00 8,000.00 8,000.00 8,100.00 8,200.00 8,300.00 8,400.00 8,500.00 8,600.00 8,700.00 9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00 9,500.00 9,600.00	12.65 13.65 14.65 15.65 16.65 17.65 18.00	289.23 289.23	5,991.99	38.87	111.45	49.15	1.00	1.00	0.00
6,200.00 6,300.00 6,400.00 6,500.00 6,600.00 6,635.08 Hold 18° Tangent 6,700.00 6,800.00 6,900.00 7,000.00 7,100.00 7,200.00 7,300.00 7,400.00 7,500.00 7,600.00 7,700.00 8,000.00 8,000.00 8,000.00 8,000.00 8,000.00 8,000.00 8,000.00 8,000.00 8,000.00 8,000.00 8,000.00 9,000.00 9,000.00 9,000.00 9,100.00 9,300.00 9,300.00 9,400.00 9,500.00 9,600.00	13.65 14.65 15.65 16.65 17.65 18.00	289.23							
6,300.00 6,400.00 6,500.00 6,600.00 6,635.08 Hold 18° Tangent 6,700.00 6,800.00 7,000.00 7,000.00 7,300.00 7,400.00 7,500.00 7,600.00 7,700.00 7,800.00 7,900.00 8,000.00 8,000.00 8,100.00 8,200.00 8,300.00 8,400.00 8,500.00 8,600.00 8,700.00 9,000.00 9,000.00 9,100.00 9,300.00 9,300.00 9,300.00 9,300.00 9,400.00 9,500.00 9,500.00	14.65 15.65 16.65 17.65 18.00		6,089.75	45.80	-131.32	57.91	1.00	1.00	0.00
6,400.00 6,500.00 6,600.00 6,635.08 Hold 18° Tangent 6,700.00 6,800.00 6,900.00 7,000.00 7,200.00 7,300.00 7,400.00 7,500.00 7,600.00 7,700.00 7,800.00 7,900.00 8,000.00 8,100.00 8,200.00 8,300.00 8,400.00 8,500.00 8,600.00 8,700.00 9,000.00 9,000.00 9,100.00 9,300.00 9,300.00 9,300.00 9,300.00 9,300.00 9,300.00 9,300.00 9,400.00 9,500.00 9,600.00	15.65 16.65 17.65 18.00		6,187.12	53.29	-152.80	67.38	1.00	1.00	0.00
6,500.00 6,600.00 6,635.08 Hold 18° Tangent 6,700.00 6,800.00 6,900.00 7,000.00 7,100.00 7,200.00 7,300.00 7,400.00 7,500.00 7,600.00 7,700.00 7,800.00 7,900.00 8,000.00 8,000.00 8,000.00 8,000.00 8,000.00 8,000.00 8,000.00 8,000.00 8,000.00 9,000.00 9,000.00 9,000.00 9,000.00 9,300.00 9,300.00 9,400.00 9,500.00 9,600.00	16.65 17.65 18.00	289.23	6,284.09	61.34	-175.89	77.56	1.00	1.00	0.00
6,600.00 6,635.08 Hold 18° Tangent 6,700.00 6,800.00 6,900.00 7,000.00 7,100.00 7,200.00 7,300.00 7,400.00 7,500.00 7,600.00 7,700.00 7,800.00 7,900.00 8,000.00 8,000.00 8,200.00 8,300.00 8,400.00 8,500.00 8,600.00 8,700.00 9,000.00 9,100.00 9,200.00 9,300.00 9,300.00 9,400.00 9,500.00 9,600.00	17.65 18.00	289.23	6,380.61	69.94	-200.56	88.45	1.00	1.00	0.00
6,600.00 6,635.08 Hold 18° Tangent 6,700.00 6,800.00 6,900.00 7,000.00 7,100.00 7,200.00 7,300.00 7,400.00 7,500.00 7,600.00 7,700.00 7,800.00 7,900.00 8,000.00 8,000.00 8,000.00 8,200.00 8,300.00 8,400.00 8,500.00 8,600.00 8,700.00 9,000.00 9,100.00 9,100.00 9,300.00 9,400.00 9,500.00 9,600.00	17.65 18.00	289.23	6,476.66	79.10	-226.83	100.03	1.00	1.00	0.00
6,635.08 Hold 18° Tangent 6,700.00 6,800.00 6,900.00 7,000.00 7,100.00 7,200.00 7,300.00 7,400.00 7,500.00 7,600.00 7,700.00 7,800.00 7,900.00 8,000.00 8,100.00 8,200.00 8,300.00 8,400.00 8,500.00 8,600.00 8,700.00 9,000.00 9,100.00 9,200.00 9,300.00 9,300.00 9,300.00 9,400.00 9,500.00 9,600.00	18.00	289.23	6,572.22	88.81	-254.67	112.31	1.00	1.00	0.00
Hold 18° Tangent 6,700.00 6,800.00 6,900.00 7,000.00 7,100.00 7,200.00 7,300.00 7,400.00 7,500.00 7,600.00 7,700.00 7,800.00 7,900.00 8,000.00 8,100.00 8,200.00 8,300.00 8,400.00 8,500.00 8,600.00 8,700.00 8,800.00 9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00 9,600.00		289.23	6,605.61	92.35	-264.81	116.78	1.00	1.00	0.00
6,700.00 6,800.00 6,900.00 7,000.00 7,100.00 7,200.00 7,300.00 7,400.00 7,500.00 7,600.00 7,700.00 7,800.00 7,900.00 8,000.00 8,100.00 8,200.00 8,300.00 8,400.00 8,500.00 8,600.00 8,700.00 8,800.00 9,000.00 9,000.00 9,100.00 9,300.00 9,300.00 9,300.00 9,400.00 9,500.00 9,600.00	nt	230.20	0,000101	52.00	20-101		1.00	1.00	0.00
6,900.00 7,000.00 7,100.00 7,100.00 7,200.00 7,300.00 7,400.00 7,500.00 7,600.00 7,700.00 7,800.00 8,000.00 8,100.00 8,200.00 8,300.00 8,400.00 8,500.00 8,600.00 8,700.00 8,900.00 9,000.00 9,100.00 9,100.00 9,300.00 9,300.00 9,400.00 9,500.00 9,600.00	18.00	289.23	6,667.36	98.95	-283.75	125.13	0.00	0.00	0.00
6,900.00 7,000.00 7,000.00 7,100.00 7,200.00 7,300.00 7,400.00 7,500.00 7,600.00 7,700.00 7,800.00 8,000.00 8,000.00 8,100.00 8,200.00 8,300.00 8,400.00 8,500.00 8,600.00 8,700.00 8,900.00 9,100.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00 9,600.00	18.00	289.23	6,762,46	109.13	-312.93	138.00	0.00	0.00	0.00
7,000.00 7,100.00 7,100.00 7,200.00 7,300.00 7,400.00 7,500.00 7,600.00 7,700.00 7,800.00 8,000.00 8,100.00 8,200.00 8,300.00 8,400.00 8,500.00 8,600.00 8,700.00 8,800.00 9,000.00 9,100.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00 9,600.00	18.00	289.23	6,857,57	119.30	-342.11	150.87	0.00	0.00	0.00
7,100.00 7,200.00 7,300.00 7,300.00 7,400.00 7,500.00 7,600.00 7,700.00 7,800.00 8,000.00 8,100.00 8,200.00 8,400.00 8,500.00 8,600.00 8,700.00 8,800.00 9,000.00 9,100.00 9,200.00 9,300.00 9,300.00 9,400.00 9,500.00 9,600.00	18.00	289.23	6,952.67	129.48	-371.29	163.73	0.00	0.00	0.00
7,200.00 7,300.00 7,300.00 7,400.00 7,500.00 7,600.00 7,700.00 7,800.00 8,000.00 8,100.00 8,200.00 8,300.00 8,400.00 8,500.00 8,600.00 8,600.00 8,900.00 9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00 9,500.00			7,047.78			176.60			
7,300.00 7,400.00 7,500.00 7,500.00 7,600.00 7,700.00 7,800.00 8,000.00 8,100.00 8,200.00 8,300.00 8,400.00 8,500.00 8,600.00 8,700.00 8,800.00 9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00 9,500.00 9,600.00	18.00	289.23		139.66	-400.47		0.00	0.00	0.00
7,400.00 7,500.00 7,500.00 7,600.00 7,700.00 7,800.00 7,900.00 8,000.00 8,100.00 8,200.00 8,300.00 8,400.00 8,500.00 8,600.00 8,700.00 8,800.00 9,000.00 9,100.00 9,100.00 9,300.00 9,400.00 9,500.00 9,500.00 9,600.00	18.00	289.23	7,142.88	149.83	-429.65	189.47	0.00	0.00	0.00
7,500.00 7,600.00 7,600.00 7,700.00 7,800.00 7,900.00 8,000.00 8,100.00 8,200.00 8,300.00 8,500.00 8,600.00 8,600.00 8,900.00 9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00 9,600.00	18.00	289.23	7,237.99	160.01	-458.83	202.34	0.00	0.00	0.00
7,600.00 7,700.00 7,800.00 7,900.00 8,000.00 8,100.00 8,200.00 8,300.00 8,400.00 8,500.00 8,600.00 8,700.00 8,900.00 9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00 9,600.00	18.00	289.23	7,333.09	170.18	-488.01	215.20	0.00	0.00	0.00
7,700.00 7,800.00 7,900.00 8,000.00 8,100.00 8,200.00 8,300.00 8,400.00 8,500.00 8,600.00 8,700.00 8,900.00 9,000.00 9,100.00 9,300.00 9,400.00 9,500.00 9,600.00	18.00	289.23	7,428.20	180.36	-517.19	228.07	0.00	0.00	0.00
7,800.00 7,900.00 8,000.00 8,100.00 8,100.00 8,200.00 8,300.00 8,500.00 8,600.00 8,700.00 8,900.00 9,000.00 9,100.00 9,300.00 9,400.00 9,500.00 9,600.00	18.00	289.23	7,523.30	190.54	-546.37	240.94	0.00	0.00	0.00
7,900.00 8,000.00 8,100.00 8,200.00 8,300.00 8,400.00 8,500.00 8,600.00 8,700.00 9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00 9,600.00	18.00	289.23	7,618.41	200.71	-575.55	253.81	0.00	0.00	0.00
7,900.00 8,000.00 8,100.00 8,200.00 8,300.00 8,400.00 8,500.00 8,600.00 8,700.00 9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00 9,600.00	18.00	289.23	7,713.51	210,89	-604.73	266.68	0.00	0.00	0.00
8,000.00 8,100.00 8,200.00 8,300.00 8,400.00 8,500.00 8,600.00 8,700.00 9,000.00 9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00 9,600.00	18.00	289.23	7,808.62	221.06	633.91	279.54	0.00	0.00	0.00
8,100.00 8,200.00 8,300.00 8,400.00 8,500.00 8,600.00 8,700.00 9,000.00 9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00 9,600.00	18.00	289.23	7,903.72	231.24	-663.09	292.41	0.00	0.00	0.00
8,200.00 8,300.00 8,400.00 8,500.00 8,600.00 8,700.00 8,800.00 9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00 9,600.00	18.00	289.23	7,998.83	241.41	-692.27	305.28	0.00	0.00	0.00
8,300.00 8,400.00 8,500.00 8,600.00 8,700.00 8,800.00 9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00 9,600.00	18.00	289.23	8,093.93	251.59	-721.45	318.15	0.00	0.00	0.00
8,400.00 8,500.00 8,600.00 8,700.00 8,800.00 8,900.00 9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00 9,600.00									
8,500.00 8,600.00 8,700.00 8,800.00 8,900.00 9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00	18.00	289.23	8,189.04	261.77	-750.63	331.01	0.00	0.00	0.00
8,600.00 8,700.00 8,800.00 8,900.00 9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00	18.00	289.23	8,284.14	271.94	-779.81	343.88	0.00	0.00	0.00
8,700.00 8,800.00 8,900.00 9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00	18.00	289.23	8,379.25	282.12	-808.99	356.75	0.00	0.00	0.00
8,700.00 8,800.00 8,900.00 9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00	18.00	289.23	8,474.35	292.29	-838.17	369.62	0.00	0.00	0.00
8,900.00 9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00 9,600.00	18.00	289.23	8,569.46	302.47	-867.35	382.49	0.00	0.00	0.00
8,900.00 9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00	18.00	289.23	8,664.57	312.64	-896.53	395.35	0.00	0.00	0.00
9,000.00 9,100.00 9,200.00 9,300.00 9,400.00 9,500.00 9,600.00	18.00	289.23	8,759.67	322.82	-925.71	408.22	0.00	0.00	0.00
9,100.00 9,200.00 9,300.00 9,400.00 9,500.00 9,600.00	18.00	289.23	8,854 . 78	333.00	-954.89	421.09	0.00	0.00	0.00
9,200.00 9,300.00 9,400.00 9,500.00 9,600.00	18.00	289.23	8,949.88	343.17	-934.69 -984.06	433.96	0.00	0.00	0.00
9,300.00 9,400.00 9,500.00 9,600.00	18.00	289.23	9,044.99	353.35	-1,013.24	446.82	0.00	0.00	0.00
9,400.00 9,500.00 9,600.00									
9,500.00 9,600.00	18.00	289.23	9,140.09	363.52	-1,042.42	459.69	0.00	0.00	0.00
9,600.00	18.00	289.23	9,235.20	373.70	-1,071.60	472.56	0.00	0.00	0.00
	18.00	289.23	9,330.30	383.88	-1,100.78	485.43	0.00	0.00	0.00
0.700.00	18.00	289.23	9,425.41	394.05	-1,129.96	498.30	0.00	0.00	0.00
9,700.00	18.00	289.23	9,520.51	404.23	-1,159.14	511.16	0.00	0.00	0.00
9,800.00		289.23	9,615.62	414.40	-1,188.32	524.03	0.00	0.00	0.00
9,900.00	18.00	289.23	9,710.72	424.58	-1,217.50	536.90	0.00	0.00	0.00
10,000.00	18.00 18.00	289.23	9,805.83	434.75	-1,246.68	549.77	0.00	0.00	0.00
10,100.00	18.00	289.23	9,900.93	444.93	-1,275.86	562.63	0.00	0.00	0.00
10,200.00	18.00 18.00	289.23	9,996.04	455 . 11	-1,275.00	575.50	0.00	0.00	0.00
	18.00 18.00 18.00								
10,205.30	18.00 18.00 18.00 18.00	289.23	10,001.08	455.65	-1,306.59	576.18	0.00	0.00	0.00
KOP, Build & Tur 10,300.00	18.00 18.00 18.00 18.00	312 <u>.</u> 90	10,089.96	473.00	-1,333.92	596.03	10.00	5.09	25.00

Planning Report

Database: Company: HOPSPP

ENGINEERING DESIGNS

Project: PRD NM DIRECTIONAL PLANS (NAD 1983)

Site: Regal Lager 31_19 Fed Com
Well: Regal Lager 31_19 Fed Com 23H

Wellbore: ORIG HOLE

Design: Permitting Plan

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well Regal Lager 31_19 Fed Com 23H

RKB=25' @ 3662.00ft RKB=25' @ 3662.00ft

Grid

sign:	Permitting Pla	all							
anned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,400.00	30.29	327.95	10,179.44	507.67	-1,361.58	633.14	10.00	7.47	15.05
10,500.00	38.83	337.20	10,261.78	558.07	-1,387.17	685.72	10.00	8.54	9.24
10,600.00	47.86	343.47	10,334.46	622.68	-1,409.93	752.18	10.00	9.04	6.27
10,700.00	57.15	348.15	10,395.28	699.53	-1,429.16	830.49	10.00	9.29	4.68
10,758.22	62.63	350.43	10,424.47	749.00	-1,438.49	880.62	10.00	9.41	3.92
PPP-1 Cros									
10,800.00	66.59	351.93	10,442.39	786.29	-1,444.27	918.29	10.00	9.46	3.59
10,900.00	76.10	355.20	10,474.35	880.32	-1,454.80	1,012.89	10.00	9.51	3.27
11,000.00	85.64	358.20	10,490.20	978.77	-1,460.45	1,111.43	10.00	9.55	3.01
11,048.67	90.30	359.63	10,491.93	1,027.39	-1,461.36	1,159.92	10.00	9.56	2.93
Landing Po	int								
11,100.00	90.30	359.63	10,491.66	1,078.71	-1,461.70	1,211.05	0.00	0.00	0.00
11,200.00	90.30	359.63	10,491.14	1,178.71	-1,462.34	1,310.67	0.00	0.00	0.00
11,300.00	90.30	359.63	10,490.62	1,278.71	-1,462.99	1,410.29	0.00	0.00	0.00
11,400.00	90.30	359.63	10,490.09	1,378.70	-1,463.63	1,509.90	0.00	0.00	0.00
11,500.00	90.30	359.63	10,489.57	1,478.70	-1,464.28	1,609.52	0.00	0.00	0.00
11,600.00	90.30	359.63	10,489.05	1,578.70	-1,464.92	1,709.13	0.00	0.00	0.00
11,700.00	90.30	359.63	10,488.53	1,678.69	-1,465.57	1,808.75	0.00	0.00	0.00
11,800.00 11,900.00	90.30 90.30	359.63 359.63	10,488.01 10,487.49	1,778.69 1,878.69	-1,466.21 -1,466.86	1,908.37 2,007.98	0.00	0.00	0.00 0.00
12,000.00	90.30	359.63	10,486.96	1,978.68	-1,467.50	2,107.60	0.00	0.00	0.00
12,100.00	90.30	359.63	10,486.44	2,078.68	-1,468.15	2,207.22	0.00	0.00	0.00
12,200.00	90.30	359.63	10,485.92	2,178.68	-1,468.79	2,306.83	0.00	0.00	0.00
12,300 . 00	90.30	359.63	10,485.40	2,278.67	-1,469.44	2,406.45	0.00	0.00	0.00
12,400 . 00	90.30	359.63	10,484.88	2,378.67	-1,470.08	2,506.06	0.00	0.00	0.00
12,500.00	90.30	359.63	10,484.36	2,478.66	-1,470.73	2,605.68	0.00	0.00	0.00
12,600.00	90.30	359.63	10,483.84	2,578.66	-1,471.37	2,705.30	0.00	0.00	0.00
12,700.00	90.30	359.63	10,483.31	2,678.66	-1,472.02	2,804.91	0.00	0.00	0.00
12,800.00	90.30	359.63	10,482.79	2,778.65	-1,472.66	2,904.53	0.00	0.00	0.00
12,900.00	90.30	359.63	10,482.27	2,878.65	-1,473.31	3,004.15	0.00	0.00	0.00
13,000.00	90.30	359.63	10,481.75	2,978.65	-1,473.95	3,103.76	0.00	0.00	0.00
13,100.00	90.30	359.63	10,481.23	3,078.64	-1,474.60	3,203.38	0.00	0.00	0.00
13,200.00	90.30	359.63	10,480.71	3,178.64	-1,475.24	3,302.99	0.00	0.00	0.00
13,300.00	90.30	359.63	10,480.18	3,278.64	-1,475.88	3,402.61	0.00	0.00	0.00
13,400.00	90.30	359.63	10,479.66	3,378.63	-1,476.53	3,502.23	0.00	0.00	0.00
13,500.00	90.30	359.63	10,479.14	3,478.63	-1,477.17	3,601.84	0.00	0.00	0.00
13,600.00	90.30	359.63	10,478.62	3,578.63	-1,477.82	3,701.46	0.00	0.00	0.00
13,700.00	90.30	359.63	10,478.10	3,678.62	-1,478.46	3,801.08	0.00	0.00	0.00
13,800.00	90.30	359.63	10,477.58	3,778.62	-1,479.11	3,900.69	0.00	0.00	0.00
13,900.00	90.30	359.63	10,477.05	3,878.62	-1,479.75	4,000.31	0.00	0.00	0.00
14,000.00	90.30	359.63	10,476.53	3,978.61	-1,480.40	4,099.92	0.00	0.00	0.00
14,100.00	90.30	359.63	10,476.01	4,078.61	-1,481.04	4,199.54	0.00	0.00	0.00
14,200.00	90.30	359.63	10,475.49	4,178.61	-1,481.69	4,299.16	0.00	0.00	0.00
14,300.00	90.30	359.63	10,474.97	4,278.60	-1,482.33	4,398.77	0.00	0.00	0.00
14,400.00	90.30	359.63	10,474.45	4,378.60	-1,482.98	4,498.39	0.00	0.00	0.00
14,500.00	90.30	359.63	10,473.92	4,478.60	-1,483.62	4,598.01	0.00	0.00	0.00
14,600.00	90.30	359.63	10,473.40	4,578.59	-1,484.27	4,697.62	0.00	0.00	0.00
14,700.00	90.30	359.63	10,472.88	4,678.59	-1,484.91	4,797.24	0.00	0.00	0.00
14,800.00	90.30	359.63	10,472.36	4,778.59	-1,485.56	4,896.85	0.00	0.00	0.00
14,900.00	90.30	359.63	10,471.84	4,878.58	-1,486.20	4,996.47	0.00	0.00	0.00
15,000.00	90.30	359.63	10,471.32	4,978.58	-1,486.85	5,096.09	0.00	0.00	0.00
15,100.00	90.30	359.63	10,470.80	5,078.58	-1,487.49	5,195.70	0.00	0.00	0.00
15,200.00	90.30	359.63	10,470.27	5,178.57	-1,488.14	5,295.32	0.00	0.00	0.00
15,300.00	90.30	359.63	10,469.75	5,278.57	-1,488.78	5,394.94	0.00	0.00	0.00
15,400.00	90.30	359.63	10,469.23	5,378.57	-1,489.43	5,494.55	0.00	0.00	0.00

Planning Report

Database: Company: HOPSPP

ENGINEERING DESIGNS

Project: PRD NM DIRECTIONAL PLANS (NAD 1983)

Site: Regal Lager 31_19 Fed Com
Well: Regal Lager 31_19 Fed Com 23H

Wellbore: ORIG HOLE

Design: Permitting Plan

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well Regal Lager 31_19 Fed Com 23H

RKB=25' @ 3662.00ft RKB=25' @ 3662.00ft

Grid

esign:	Permitting Pia	ATT							
Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
15,500.00 15,600.00	90.30 90.30	359.63 359.63	10,468.71 10,468.19	5,478.56 5,578.56	-1,490.07 -1,490.72	5,594.17 5,693.78	0.00 0.00	0.00 0.00	0.00 0.00
15,700.00	90.30	359.63	10,467.67	5,678.55	-1,491.36	5,793.40	0.00	0.00	0.00
15,800.00	90.30	359.63	10,467.14	5,778.55	-1,492.01	5,893.02	0.00	0.00	0.00
15,900.00	90.30	359.63	10,466.62	5,878.55	-1,492.65	5,992.63	0.00	0.00	0.00
16,000.00	90.30	359.63	10,466,10	5,978.54	-1,493.30	6,092.25	0.00	0.00	0.00
16.053.46	90.30	359.63	10,465.82	6,032.00	-1,493.64	6,145.50	0.00	0.00	0.00
PPP-2 Cros		000.00	. 5, . 5 5 15 2	5,552.55	.,	5,115155	0.00	0.00	0.00
16,100.00	90.30	359.63	10,465.58	6,078.54	-1,493.94	6,191.87	0.00	0.00	0.00
16,200.00	90.30	359.63	10,465.06	6,178.54	-1,494.59	6,291.48	0.00	0.00	0.00
16,300.00	90.30	359.63	10,464.54	6,278.53	-1,495.23	6,391.10	0.00	0.00	0.00
16,400.00	90.30	359.63	10,464.01	6,378.53	-1,495.88	6,490.71	0.00	0.00	0.00
16,500.00	90.30	359.63	10,463.49	6,478.53	-1,496.52	6,590.33	0.00	0.00	0.00
16,600.00	90.30	359.63	10,462.97	6,578.52	-1,497.17	6,689.95	0.00	0.00	0.00
16,700.00	90.30	359.63	10,462.45	6,678.52	-1,497.81	6,789.56	0.00	0.00	0.00
16,800.00	90.30	359.63	10,461.93	6,778.52	-1,498.46	6,889.18	0.00	0.00	0.00
16,900.00	90.30	359.63	10,461.41	6,878.51	-1,499.10	6,988.80	0.00	0.00	0.00
17,000.00	90.30	359.63	10,460.89	6,978.51	-1,499.75	7,088.41	0.00	0.00	0.00
17,100.00	90.30	359.63	10,460.36	7,078.51	-1,500.39	7,188.03	0.00	0.00	0.00
17,200.00	90.30	359.63	10,459.84	7,178.50	-1,501.04	7,287.64	0.00	0.00	0.00
17,300.00	90.30	359.63	10,459.32	7,278.50	-1,501.68	7,387.26	0.00	0.00	0.00
17,400.00	90.30	359.63	10,458,80	7,378.50	-1,502.33	7,486.88	0.00	0.00	0.00
17,500.00	90.30	359.63	10,458.28	7,478.49	-1,502.97	7,586.49	0.00	0.00	0.00
17,600.00	90.30	359.63	10,457.76	7,578.49	-1,503.62	7,686.11	0.00	0.00	0.00
17,700.00	90.30	359.63	10,457.23	7,678.49	-1,504.26	7,785.73	0.00	0.00	0.00
17,800.00	90.30	359.63	10,456.71	7,778 . 48	-1,504.91	7,885.34	0.00	0.00	0.00
17,900.00	90.30	359.63	10,456.19	7,878.48	-1,505.55	7,984.96	0.00	0.00	0.00
18,000.00	90.30	359.63	10,455.67	7,978.48	-1,506.20	8,084.57	0.00	0.00	0.00
18,100.00	90.30	359.63	10,455.15	8,078.47	-1,506.84	8,184.19	0.00	0.00	0.00
18,200.00	90.30	359.63	10,454.63	8,178 . 47	-1,507.49	8,283.81	0.00	0.00	0.00
18,300.00	90.30	359.63	10,454.10	8,278.47	-1,508.13	8,383.42	0.00	0.00	0.00
18,400.00	90.30	359.63	10,453.58	8,378.46	-1,508.78	8,483.04	0.00	0.00	0.00
18,500.00	90.30	359.63	10,453.06	8,478.46	-1,509.42	8,582.66	0.00	0.00	0.00
18,600.00	90.30	359.63	10,452.54	8,578 . 46	-1,510.07	8,682.27	0.00	0.00	0.00
18,693.55	90.30	359.63	10,452.05	8,672.00	-1,510.67	8,775.46	0.00	0.00	0.00
PPP-3 Cros		250.00	40.450.00	0.070.45	4 540 74	0.704.00	2.22	0.00	0.00
18,700.00	90.30	359.63	10,452.02	8,678.45	-1,510.71	8,781.89	0.00	0.00	0.00
18,800.00	90.30	359.63	10,451.50	8,778.45	-1,511.36	8,881.50	0.00	0.00	0.00
18,900.00	90.30	359.63	10,450.97	8,878.44	-1,512.00	8,981.12	0.00	0.00	0.00
19,000.00	90.30	359.63	10,450.45	8,978.44	-1,512.65	9,080.74	0.00	0.00	0.00
19,100.00	90.30	359.63	10,449.93	9,078.44 9,178.43	-1,513.29 1,513.04	9,180.35	0.00	0.00	0.00
19,200.00	90.30	359.63	10,449.41	,	-1,513.94	9,279.97	0.00	0.00	0.00
19,300.00	90.30	359.63	10,448.89	9,278.43	-1,514.58	9,379.59	0.00	0.00	0.00
19,400.00	90.30	359.63	10,448.37	9,378.43	-1,515.23	9,479.20	0.00	0.00	0.00
19,500 . 00 19,600 . 00	90.30 90.30	359.63 359.63	10,447.85 10,447.32	9,478 . 42 9,578 . 42	-1,515.87	9,578.82 9,678.43	0.00 0.00	0.00 0.00	0.00 0.00
19,600.00	90.30	359.63 359.63	10,447.32	9,578.42 9,678.42	-1,516.52 -1,517.16	9,678.43 9,778.05	0.00	0.00	0.00
				•					
19,800.00	90.30	359.63	10,446.28	9,778.41	-1,517.81	9,877.67	0.00	0.00	0.00
19,900.00	90.30	359.63	10,445.76	9,878.41	-1,518.45	9,977.28	0.00	0.00	0.00
20,000 . 00 20,017 . 59	90.30 90.30	359.63 359.63	10,445.24 10,445.15	9,978.41 9,996.00	-1,519.10 -1,519.21	10,076.90 10,094.42	0.00 0.00	0.00 0.00	0.00 0.00
20,017.59 PPP-4 Cros		30 9. 03	10,440.10	9,990.00	-1,018.21	10,094.42	0.00	0.00	0.00
20,100.00	s 90.30	359.63	10,444.72	10,078.40	-1,519.74	10,176.52	0.00	0.00	0.00
•									
20,200.00	90.30	359.63	10,444.19	10,178.40	-1,520.39	10,276.13	0.00	0.00	0.00
20,300.00	90.30	359.63	10,443.67	10,278.40	-1,521.03	10,375.75	0.00	0.00	0.00

Planning Report

Database: Company: HOPSPP

ENGINEERING DESIGNS

Project: PRD NM DIRECTIONAL PLANS (NAD 1983)

Site: Regal Lager 31_19 Fed Com
Well: Regal Lager 31_19 Fed Com 23H

Wellbore: ORIG HOLE

Design: Permitting Plan

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well Regal Lager 31_19 Fed Com 23H

RKB=25' @ 3662.00ft RKB=25' @ 3662.00ft

Grid

Design:	Permitting Pla	an							
Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
20,400.00	90.30	359.63	10,443.15	10,378.39	-1,521.68	10,475.36	0.00	0.00	0.00
20,500.00	90.30	359.63	10,442.63	10,478.39	-1,522.32	10,574.98	0.00	0.00	0.00
20,600.00	90.30	359.63	10,442.11	10,578.39	-1,522.97	10,674.60	0.00	0.00	0.00
20,700.00	90.30	359.63	10,441.59	10,678.38	-1,523.61	10,774.21	0.00	0.00	0.00
20,800.00	90.30	359.63	10,441.06	10,778.38	-1,524.26	10,873.83	0.00	0.00	0.00
20,900.00	90.30	359.63	10,440.54	10,878.38	-1,524.90	10,973.45	0.00	0.00	0.00
21,000.00	90.30	359.63	10,440.02	10,978.37	-1,525.55	11,073.06	0.00	0.00	0.00
21,100.00	90.30	359.63	10,439.50	11,078.37	-1,526.19	11,172.68	0.00	0.00	0.00
21,200.00	90.30	359.63	10,438.98	11,178.37	-1,526.84	11,272.29	0.00	0.00	0.00
21,300.00	90.30	359.63	10,438.46	11,278.36	-1,527.48	11,371.91	0.00	0.00	0.00
21,400.00	90.30	359.63	10,437.93	11,378.36	-1,528.13	11,471.53	0.00	0.00	0.00
21,500.00	90.30	359.63	10,437.41	11,478.36	-1,528.77	11,571.14	0.00	0.00	0.00
21,600.00	90.30	359.63	10,436.89	11,578.35	-1,529.42	11,670.76	0.00	0.00	0.00
21,700.00	90.30	359.63	10,436.37	11,678.35	-1,530.06	11,770.38	0.00	0.00	0.00
21,800.00	90.30	359.63	10,435.85	11,778.35	-1,530.71	11,869.99	0.00	0.00	0.00
21,900.00	90.30	359.63	10,435.33	11,878.34	-1,531.35	11,969.61	0.00	0.00	0.00
22,000.00	90.30	359.63	10,434.81	11,978.34	-1,532.00	12,069.22	0.00	0.00	0.00
22,100.00	90.30	359.63	10,434.28	12,078.33	-1,532.64	12,168.84	0.00	0.00	0.00
22,200.00	90.30	359.63	10,433.76	12,178.33	-1,533.29	12,268.46	0.00	0.00	0.00
22,300.00	90.30	359.63	10,433.24	12,278.33	-1,533.93	12,368.07	0.00	0.00	0.00
22,400.00	90.30	359.63	10,432.72	12,378.32	-1,534.58	12,467.69	0.00	0.00	0.00
22,500.00	90.30	359.63	10,432.20	12,478.32	-1,535.22	12,567.31	0.00	0.00	0.00
22,600.00	90.30	359.63	10,431.68	12,578.32	-1,535.87	12,666.92	0.00	0.00	0.00
22,700.00	90.30	359.63	10,431.15	12,678.31	-1,536.51	12,766.54	0.00	0.00	0.00
22,800.00	90.30	359.63	10,430.63	12,778.31	-1,537.16	12,866.15	0.00	0.00	0.00
22,900.00	90.30	359.63	10,430.11	12,878.31	-1,537.80	12,965.77	0.00	0.00	0.00
23,000.00	90.30	359.63	10,429.59	12,978.30	-1,538.45	13,065.39	0.00	0.00	0.00
23,100.00	90.30	359.63	10,429.07	13,078.30	-1,539.09	13,165.00	0.00	0.00	0.00
23,200.00	90.30	359.63	10,428.55	13,178.30	-1,539.74	13,264.62	0.00	0.00	0.00
23,300.00	90.30	359.63	10,428.02	13,278.29	-1,540.38	13,364.24	0.00	0.00	0.00
23,400.00	90.30	359.63	10,427.50	13,378.29	-1,541.03	13,463.85	0.00	0.00	0.00
23,500.00	90.30	359.63	10,426.98	13,478.29	-1,541.67	13,563.47	0.00	0.00	0.00
23,600.00	90.30	359.63	10,426.46	13,578.28	-1,542.32	13,663.08	0.00	0.00	0.00
23,700.00 23,800.00 23,900.00 23,976.73 PPP-5 Cross	90.30 90.30 90.30 90.30	359.63 359.63 359.63 359.63	10,425.94 10,425.42 10,424.90 10,424.49	13,678.28 13,778.28 13,878.27 13,955.00	-1,542.96 -1,543.61 -1,544.25 -1,544.75	13,762.70 13,862.32 13,961.93 14,038.37	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
24,000.00	90.30	359.63	10,424.37	13,978.27	-1,544.90	14,061.55	0.00	0.00	0.00
24,100.00	90.30	359.63	10,423.85	14,078.27	-1,545.54	14,161.17	0.00	0.00	0.00
24,200.00	90.30	359.63	10,423.33	14,178.26	-1,546.19	14,260.78	0.00	0.00	0.00
24,300.00	90.30	359.63	10,422.81	14,278.26	-1,546.83	14,360.40	0.00	0.00	0.00
24,400.00 24,500.00 24,600.00 24,700.00	90.30 90.30 90.30 90.30	359.63 359.63 359.63	10,422.29 10,421.77 10,421.24 10,420.72	14,378.26 14,478.25 14,578.25 14,678.25	-1,547.48 -1,548.12 -1,548.77 -1,549.41	14,460.01 14,559.63 14,659.25 14,758.86	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
24,800.00 24,900.00 25,000.00 25,100.00	90.30 90.30 90.30 90.30	359.63 359.63 359.63 359.63	10,420.20 10,419.68 10,419.16 10,418.64	14,778.24 14,878.24 14,978.23 15,078.23	-1,550.06 -1,550.70 -1,551.35 -1,551.99	14,858.48 14,958.10 15,057.71 15,157.33	0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
25,200.00	90.30	359.63	10,418.11	15,178.23	-1,552.64	15,256.94	0.00	0.00	0.00
25,300.00	90.30	359.63	10,417.59	15,278.22	-1,553.28	15,356.56	0.00	0.00	0.00
25,400.00	90.30	359.63	10,417.07	15,378.22	-1,553.93	15,456.18	0.00	0.00	0.00
25,500.00	90.30	359.63	10,416.55	15,478.22	-1,554.57	15,555.79	0.00	0.00	0.00
25,600.00	90.30	359.63	10,416.03	15,578.21	-1,555.22	15,655.41	0.00	0.00	0.00

OXY

Planning Report

Database: Company: HOPSPP

ENGINEERING DESIGNS

Project: PRD NM DIRECTIONAL PLANS (NAD 1983)

90.30

90.30

90.30

90.30

90.30

359.63

359.63

359.63

359.63

359.63

10,412.90

10,412.38

10,411.86

10,411.33

10,410.82

Site: Regal Lager 31_19 Fed Com
Well: Regal Lager 31_19 Fed Com 23H

Wellbore: ORIG HOLE

Design: Permitting Plan

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

-1,559.09

-1,559.73

-1,560.38

-1,561.02

-1,561.66

16,253.11

16,352.72

16,452.34

16,551.96

16,650.25

Well Regal Lager 31_19 Fed Com 23H

RKB=25' @ 3662.00ft RKB=25' @ 3662.00ft

Grid

Minimum Curvature

0.00

0.00

0.00

0.00

0.00

0.00

0.00

0.00

0.00

0.00

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0.00

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
25,700.00	90.30	359.63	10,415.51	15,678.21	-1,555.86	15,755.03	0.00	0.00	0.00	
25,800.00	90.30	359.63	10,414.98	15,778.21	-1,556.51	15,854.64	0.00	0.00	0.00	
25,900.00	90.30	359.63	10,414.46	15,878.20	-1,557.15	15,954.26	0.00	0.00	0.00	
26,000.00	90.30	359.63	10,413.94	15,978.20	-1,557.80	16,053.87	0.00	0.00	0.00	
26,100.00	90.30	359.63	10,413.42	16,078.20	-1,558.44	16,153.49	0.00	0.00	0.00	

16,178.19

16,278.19

16,378.19

16,478.18

16,576.85

TD at 26598.67' MD

26,200.00

26,300.00

26,400.00

26,500.00

26,598.67

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
KOP (Regal Lager - plan misses targe - Point	0.00 et center by 15	0.00 524.75ft at 0	0.00 .00ft MD (0.	448.94 .00 TVD, 0.00	-1,457.16 N, 0.00 E)	519,627.90	732,771.95	32.426996	-103.712892
PBHL (Regal Lager - plan hits target ce - Point	0.00 enter	0.01	10,410.82	16,576.85	-1,561.66	535,755.00	732,667.46	32.471325	-103.712927
FTP (Regal Lager - plan misses targe - Point	0.00 et center by 27		10,492.86 76.93ft MD	848.95 (10468.38 TV	-1,460.21 /D, 858.13 N,	520,027.89 -1452.80 E)	732,768.90	32.428095	-103.712894

Formations						
	Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
	808.00	808.00	RUSTLER			
	1,055.00	1,055.00	SALADO			
	2,000.00	2,000.00	MARKER BED 126		0.00	
	2,576.00	2,576.00	CASTILE			
	4,545.00	4,545.00	DELAWARE			
	4,623.00	4,623.00	BELL CANYON			
	5,470.30	5,469.00	CHERRY CANYON			
	6,761.66	6,726.00	BRUSHY CANYON			
	8,650.10	8,522.00	BONE SPRING			
	9,736.26	9,555.00	BONE SPRING 1ST			
	10,466.31	10,235.00	BONE SPRING 2ND			



Planning Report

Database: HOPSPP

Company: ENGINEERING DESIGNS

Project: PRD NM DIRECTIONAL PLANS (NAD 1983)

Site: Regal Lager 31_19 Fed Com
Well: Regal Lager 31_19 Fed Com 23H

Wellbore: ORIG HOLE

Design: Permitting Plan

Local Co-ordinate Reference:

Survey Calculation Method:

TVD Reference:
MD Reference:
North Reference:

Well Regal Lager 31_19 Fed Com 23H

RKB=25' @ 3662.00ft RKB=25' @ 3662.00ft

Grid

Minimum Curvature

Measured	Vertical	Local Coor	dinates	
Depth (ft)	Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
4,835.00	4,835.00	0.00	0.00	Build 1°/100'
6,635.08	6,605.61	92.35	-264.81	Hold 18° Tangent
10,205.30	10,001.08	455.65	-1,306.59	KOP, Build & Turn 10°/100'
10,758.22	10,424.47	749.00	-1,438.49	PPP-1 Cross
11,048.67	10,491.93	1,027.39	-1,461.36	Landing Point
16,053.46	10,465.82	6,032.00	-1,493.64	PPP-2 Cross
18,693.55	10,452.05	8,672.00	-1,510.67	PPP-3 Cross
20,017.59	10,445.15	9,996.00	-1,519.21	PPP-4 Cross
23,976.73	10,424.49	13,955.00	-1,544.75	PPP-5 Cross
26,598.67	10,410.82	16,576.85	-1,561.66	TD at 26598.67' MD

Oxy USA Inc. - Regal Lager 31_19 Fed Com 23H Drill Plan

1. Geologic Formations

TVD of Target (ft):	10492	Pilot Hole Depth (ft):	
Total Measured Depth (ft):	26599	Deepest Expected Fresh Water (ft):	808

Delaware Basin

Formation	MD-RKB (ft)	TVD-RKB (ft)	Expected Fluids
Rustler	808	808	
Salado	1055	1055	Salt
Marker Bed 126	2000	2000	Salt
Castile	2576	2576	Salt
Delaware	4545	4545	Oil/Gas/Brine
Bell Canyon	4623	4623	Oil/Gas/Brine
Cherry Canyon	5470	5469	Oil/Gas/Brine
Brushy Canyon	6762	6726	Losses
Bone Spring	8650	8522	Oil/Gas
Bone Spring 1st	9736	9555	Oil/Gas
Bone Spring 2nd	10466	10235	Oil/Gas
Bone Spring 3rd			Oil/Gas
Wolfcamp			Oil/Gas
Penn			Oil/Gas
Strawn	F - i I - Li	-1	Oil/Gas

^{*}H2S, water flows, loss of circulation, abnormal pressures, etc.

2. Casing Program

		IV	1D	T۱	/D							
	Hole	From	То	From	То	Csg.	Csg Wt.					
Section	Size (in)	(ft)	(ft)	(ft)	(ft)	OD (in)	(ppf)	Grade	Conn.			
Surface	17.5	0	868	0	868	13.375	54.5	J-55	BTC			
Intermediate	9.875	0	10105	0	9901	7.625	26.4	L-80 HC	ВТС			
Production	6.75	0	16205	0	10492	5.5	20	P-110	Sprint-TC SC			
Production	6.75	16205	26599	10492	10492	5.5	20	P-110	DWC/C-HT-IS			

All casing strings will be tested in accordance with 43 CFR part 3170 Subpart 3172

*Oxy requests the option to run the 10.75" Intermediate I as a contingency string to be run only if severe hole conditions dictate an additional casing string necessary. This would make the planned 7.625" / 7.827" Casing the Intermediate II.

**If 4S Contingency is not required, Oxy requests permission to transition from 12.25" to 9.875" Intermediate I at 1st trip point below Brushy top (estimated top in formation table above). Cement volumes will be updated on C103 submission.

Occidental - Permian New Mexico

All Casing SF Values will meet or exceed									
those below									
SF	SF	Body SF	Joint SF						
Collapse	Burst	Tension	Tension						
1.00	1.100	1.4	1.4						

Annular Clearance Variance Request

As per the agreement reached in the Oxy/BLM face-to-face meeting on Feb 22, 2018, Oxy requests permission to allow deviation from the 0.422" annular clearance requirement. Please see Annular Clearance Variance attachment for further details.

	Y or N
Is casing new? If used, attach certification as required in 43 CFR 3160	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	Y
Does the above casing design meet or exceed BLM's minimum standards?	Y
If not provide justification (loading assumptions, casing design criteria).	I
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching	37
the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-Q?	Y
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back	Y
500' into previous casing?	1
Is well located in R-111-Q and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

3. Cementing Program

Section	Stage	Slurry:	Sacks	Yield (ft^3/ft)	Density (lb/gal)	Excess:	тос	Placement	Description
Surface	1	Surface - Tail	907	1.33	14.8	100%	-	Circulate	Class C+Accel.
Int.	1	Intermediate 1S - Tail	415	1.68	13.2	5%	7,012	Circulate	Class C+Ret., Disper.
Int.	2	Intermediate 2S - Tail BH	1244	1.71	13.3	25%	-	Bradenhead	Class C+Accel.
Prod	1	Production - Tail	963	1.8/1	12.2	25%	9 605	Circulate	Class C+Ret

Offline Cementing Request

Oxy requests a variance to cement the 9.625" and/or 7.625" intermediate casing strings offline in accordance to the approved variance, EC Tran 461365. Please see Offline Cementing Variance attachment

Bradenhead CBL Request

Oxy requests permission to adjust the CBL requirement after bradenhead cement jobs, on 7-5/8" intermediate casings, as per the agreement reached in the OXY/BLM meeting on September 5, 2019. Please see Bradenhead CBL Variance attachment for further details.

Regal Lager 31_19 Fed Com 23H

Created On: 6/26/2025 at 9:46 PM

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP		Туре	✓	Tested to:	Deepest TVD Depth (ft) per Section:	
		5M		Annular	✓	70% of working pressure		
	13-5/8"			Blind Ram	✓			
9.875" Hole		5M	Pipe Ram 250 psi / 5000 psi		250 pai / 5000 pai	9901		
		SIVI	Double Ram		1	250 psi / 5000 psi	1	
			Other*					
		5M	Annular		✓	70% of working pressure		
				Blind Ram	✓		 	
6.75" Hole	13-5/8"	5M		Pipe Ram		250 psi / 5000 psi	10492	
				Double Ram		200 psi / 0000 psi		
			Other*				1	

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per 43 CFR part 3170 Subpart 3172 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold.

^{*}Specify if additional ram is utilized

Formation integrity test will be performed per 43 CFR part 3170 Subpart 3172.

On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with 43 CFR part 3170 Subpart 3172.

A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.

Are anchors required by manufacturer?

A multibowl or a unionized multibowl wellhead system will be employed. The wellhead and connection to the BOPE will meet all API 6A requirements. The BOP will be tested per 43 CFR part 3170 Subpart 3172 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. We will test the flange connection of the wellhead with a test port that is directly in the flange. We are proposing that we will run the wellhead through the rotary prior to cementing surface casing as discussed with the BLM on October 8, 2015.

See attached schematics.

BOP Break Testing Request

Oxy requests permission to adjust the BOP break testing (intermediate and production) requirements as per the agreement reached in the OXY/BLM meeting on April 4th, 2025. Please see BOP Break Testing Variance attachment for further details.

Oxy will use Cameron ADAPT wellhead system that uses an OEC top flange connection. This connection has been fully vetted and verified by API to Spec 6A and carries an API monogram.

Occidental - Permian New Mexico

5. Mud Program

Section	Depth - MD		Depth - TVD		Tymo	Weight	Viscosity	Water
Section	From (ft)	To (ft)	From (ft)	To (ft)	Туре	(ppg)	Viscosity	Loss
Surface	0	868	0	868	Water-Based Mud	8.6 - 8.8	40-60	N/C
Intermediate	868	10105	868	9901	Saturated Brine-Based or Oil-Based Mud	8.0 - 10.0	35-45	N/C
Production	10105 26599		9901 10492		Water-Based or Oil- Based Mud	8.0 - 9.6	38-50	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times. The following is a general list of products: Barite, Bentonite, Gypsum, Lime, Soda Ash, Caustic Soda, Nut Plug, Cedar Fiber, Cotton Seed Hulls, Drilling Paper, Salt Water Clay, CACL2. Oxy will use a closed mud system.

		_
What will be used to monitor the	PVT/MD Totco/Visual Monitoring	
loss or gain of fluid?	1 V 1/1VID TOLCO/ VISUAL WIGHTONING	

6. Logging and Testing Procedures

Loggi	ng, Coring and Testing.
Vac	Will run GR from TD to surface (horizontal well – vertical portion of hole).
Yes	Stated logs run will be in the Completion Report and submitted to the BLM.
No	Logs are planned based on well control or offset log information.
No	Drill stem test? If yes, explain
No	Coring? If yes, explain

Additi	ional logs planned	Interval
No	Resistivity	
No	Density	
Yes	CBL	Production string
Yes	Mud log	Bone Spring – TD
No	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	5238 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	164°F

Pump high viscosity sweeps as needed for hole cleaning. The mud system will be monitored visually/manually as well as with an electronic PVT. The necessary mud products for additional weight and fluid loss control will be on location at all times. Appropriately weighted mud will be used to isolate potential gas, oil, and water zones until such time as casing can be cemented into place for zonal

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of 43 CFR part 3170 Subpart 3172. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

N	H2S is present
Υ	H2S Plan attached

8. Other facets of operation

	Yes/No
Will the well be drilled with a walking/skidding operation? If yes, describe.	
We plan to drill the 4 well pad in batch by section: all surface sections, intermediate	Van
sections and production sections. The wellhead will be secured with a night cap whenever	Yes
the rig is not over the well.	
Will more than one drilling rig be used for drilling operations? If yes, describe.	
Oxy requests the option to contract a Surface Rig to drill, set surface casing, and cement for	
this well. If the timing between rigs is such that Oxy would not be able to preset surface,	Yes
the Primary Rig will MIRU and drill the well in its entirety per the APD. Please see the	
attached document for information on the anuddor ria	
Total Estimated Cuttings Volume: 1864 bbls	

l	C-102)
ı		-

Submit Electronically Via OCD Permitting

State of New Mexico Energy, Minerals, & Natural Resources Department OIL CONSERVATION DIVISION

	Revised July 9, 2024 PAGE 1 OF 2
1	Initial Submittal

	Initial Submittal
Submittal Type:	X Amended Repor
Type.	As Drilled

					WELL LOCATION	N INFORMATION			
API Nur. 30-()25-54	341	Pool Code 5695			Pool Name BILBREY B	ASIN; BOI	NE SPRIN	G
Property	Code		Property Na	me			•	Well Number	
3352	225				REGAL LAGER	31 19 FED COM		23H	[
OGRID	No.		Operator Na	me		_	Ground Level Elevation		
	16696	j.			OXY U	SA INC.		3637	"
Surface	Owner:	State	Fee 🗌 Tri	bal 🔽	Federal	Mineral Owner:	State Fee	Tribal Federal	9
					Surface	Location			
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD83)	Longitude (NAD83)	County
A	06	22S	32E	1	764' FNL	857' FEL	32.42573819	-103.70817799	LEA
			,		Bottom Ho	le Location			
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD83)	Longitude (NAD83)	County
В	19	21S	32E		20' FNL	2310' FEL	32.47132483	-103.71292665	LEA
			•				•		
Dedicat	ed Acres	Infill or Defin	ing Well		g Well API	Overlapping Spacing Unit	(Y/N)	Consolidation Code	
90	60.00	INFILL	_	3H -	- PENDING	Υ		N/A	
Order l	Numbers: N	/A				Well setbacks are under	Common Ownership	: Yes No)
					Kick Off P	oint (KOP)			
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD83)	Longitude (NAD83)	County
В	06	22S	32E	2	300' FNL	2310' FEL	32.42699546	-103.71289168	LEA
First Take Point (FTP)									
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD83)	Longitude (NAD83)	County
О	31	21S	32E		100' FSL	2310' FEL	32.42809494	-103.71289403	LEA
Last Take Point (LTP)									
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD83)	Longitude (NAD83)	County
В	19	21S	32E		100' FNL	2310' FEL	32.47110493	-103.71292644	LEA
Unitizac	Aran or Aran	of Uniform Inter	ast				Ground Floor I	Elevation	
N/A		or omioim men	est	Spacing	g Unit Type: X Horizo	ontal Vertical	Ground Proof 1	3637'	
1 1// \								3037	
OPER	ATOR CEF	RTIFICATIO	NS			SURVEYOR CERT	IFICATIONS		

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.

Melissa Guidry 07/01/25 Signature

Date

Melissa Guidry

Printed Name

melissa guidry@oxy.com

Email Address

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.



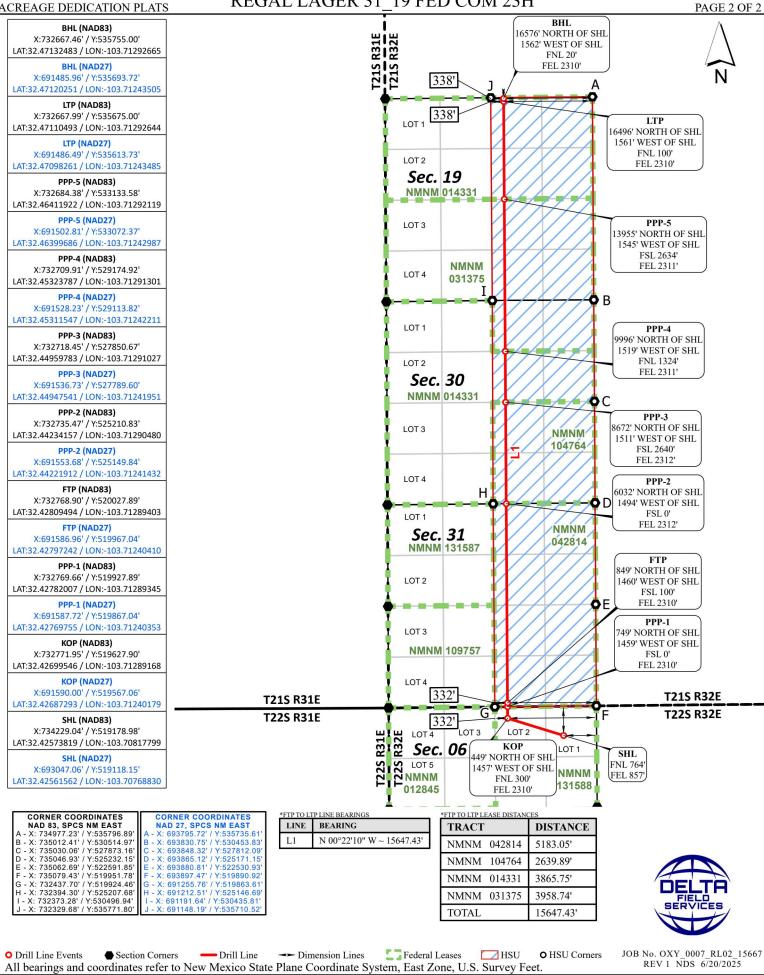
Signature and Seal of Professional Surveyor

Certificate Number

Date of Survey

21653

JUNE 24, 2025



								I											
	ITEM				APD BASE LIN	INE (For Regulatory to Complete)	o Complete						SL	SUNDRY PLAN (Groups to complete the latest plan)	ups to complete 1	he latest plan)			
		Date APD/BASE LINE APPROVED: 01/29/25	PPROVED: 01/29/25								DATE Sundry Worksheet: 07/01/25	/01/25							
	NAME	REGAL LAGER 31_19 FEDERAL COM 23H	DERAL COM 23H								REGAL LAGER 31_19 FEDERAL COM 23H	COM 23H							
	INSL	ON									ON								
	THS.	764' FNL 857' FEL									764' FNL 857' FEL								
	PAD	LSTTNK 22532E 6 3									LSTTNK 22532E 6 3								
ld i	TH8	20' FNL 1735' FWL									20' FNL 2310' FEL								
	HSU SIZE, ACRES	480									096								
μng	POOL	BILBREY BASIN; BONESPRING	PRING								BILBREY BASIN; BONESPRING								
;	TVD	10357									10492'								
	TARGET FORMATION	BONESPRING									BONESPRING								
						APD BASE LINE									SUNDRY PLAN				
	ű.	Section	Hole Size (in.)	MD	ΩVI	Csg OD (in)	Csg WT	Grade	S	Conn.	Section	Hole Size (in.)	MD	ΦV	Csg OD (in)	Csg WT (ppf)	Grade	Conn.	
	990	Surface	14.75	868	868	10.75	45.5	1-55	20	TC	Surface	17.5	898	898	13.375	54.5	1-55	BTC	
	ова	Int	9.875	2086	9730	7.625	26.4	T-80 HC	.8	BTC	Int	9.875	10105	9901	7.625	26.4	L-80 HC	BTC	
	191	Prod	6.75	26499	10357	5.5	20	P-110	Wedg	Wedge 461	Prod	6.75	16205	10492	5.5	50	P-110	Sprint-TC SC	CSC
	NISY	Liner									Prod	6.75	26599	10492	5.5	20	P-110	DWC/C-HT-IS	HT-IS
	ю																		
						APD BASE LINE									SUNDRY PLAN				
	M	Section/Stage	Slurry	Sacks	Yield (ft^3/ft)	Density (lb/gal)	Excess	T0C	Placement	Description	Section/Stage	Slurry	Sacks	Yield (ft^3/ft)	Yield (ft^3/ft) Density (lb/gal)	Excess	TOC	Placement	Description
	ΑЯ	Surf	Surface - Tail	726	1.33	14.8	100%		Circulate	Class C+Accel	Surf	Surface - Tail	206	1.33	14.8	100%		Circulate	Class C+Accel
1	90:	Int/1	Interm 15 - Tail	383	1.65	13.2	2%	7003	Circulate	Class H+Accel, Disper, Salt Int/1	Int/1	Interm 15 - Tail	415	1.68	13.2	2%	7012	Circulate	Class C+Ret,Disp
Buil	⊎d.	lnt/2	Interm 25 - Tail BH	1082	1.71	13.3	25%		Bradenhead	Class C+Accel	Int/1	Interm 25 - Tail BH	1244	1.73	13.3	25%		Bradenhead	Class C+Accel
lind	LN3	Prod	Prod - Tail	1299	1.38	13.2	25%	9307	Circulate	Class H+Accel, Disper, Salt Int2	Int2	Prod - Tail	963	1.84	13.3	25%	9605	Circulate	Class C+Ret
1	W										Int2								
	מ										Prod								
						APD BASE LINE									SUNDRY PLAN				
		BOP Break Tesing Variance	ince	×							BOP Break Tesing Variance		×						
	\$3	5M Annular BOP Variance	nce								5M Annular BOP Variance								
	ONY	Bradenhead CBL Variance	ıce	×							Bradenhead CBL Variance		×						
	/181°	Offline Cementing Variance	ance	×							Offline Cementing Variance		×						
	٩Λ	Production Annular Clearance Variance	earance Variance	×							Production Annular Clearance Variance	e Variance	×						
		Flexible Choke Line Variance	rlance								Flexible Choke Line Variance								
		(Pilot Hole, Logs etc.)									(Pilot Hole, Logs etc.)								

OXY APD CHANGE SUNDRY LIST FORM

Sante Fe Main Office Phone: (505) 476-3441

General Information Phone: (505) 629-6116

Online Phone Directory https://www.emnrd.nm.gov/ocd/contact-us

State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division 1220 S. St Francis Dr. Santa Fe, NM 87505

CONDITIONS

Action 506113

CONDITIONS

Operator:	OGRID:
OXY USA INC	16696
P.O. Box 4294	Action Number:
Houston, TX 772104294	506113
	Action Type:
	[C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By		Condition Date
matthew.gomez	Notify the OCD 24 hours prior to casing & cement.	9/19/2025
matthew.gomez	Any previous COA's not addressed within the updated COA's still apply.	9/19/2025